




COUNTY COUNCIL OF NORTHUMBERLAND.

ABSTRACT
OF THE
ANNUAL REPORTS
OF THE
MEDICAL OFFICERS OF HEALTH
For the Year 1897,
WITH STATISTICAL INFORMATION AND A
REPORT
ON THE
SANITARY CONDITION OF THE ADMINISTRATIVE
COUNTY.

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1898.



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NORTHUMBERLAND COUNTY COUNCIL.

REPORT OF THE COUNTY MEDICAL OFFICER OF HEALTH FOR THE YEAR ENDING 31ST DECEMBER, 1897.

TO THE CHAIRMAN AND MEMBERS OF THE PROPERTY AND SANITATION
COMMITTEE OF THE SAID COUNCIL.

GENTLEMEN,—

I have pleasure in presenting herewith my Summary of the Annual Reports of the Medical Officers of Health for the year ending 31st December, 1897, in which I have dealt with (*a*) the sanitary condition and requirements of the county as a whole, and with (*b*) those of each sanitary district, as ascertained both from the annual reports received, and from personal observation and inspection, so far as time and opportunity have allowed.

Reports have been sent in from all the Medical Officers of Health in the Administrative County.

Of the 35 reports received, 26 were printed, being an increase of 5 printed as compared with 1896, 2 were type-written (Bellingham and Newbiggin-by-the-Sea) and 7 were in manuscript form.

Those from the Urban Districts of Berwick-on-Tweed, Cowpen, Earsdon, Gosforth, and Newbiggin-by-the-Sea, and from the Rural Districts of Bellingham, Haltwhistle, Morpeth, and Norham were not printed.

I have in each of my previous annual reports emphasized the great importance of each district council printing the annual report of its Medical Officer of Health.

Many of these reports are exceedingly complete. None of them are drawn up without a considerable expenditure of time, thought, and tedious calculations, and they all contain valuable information which should be communicated to every member of the district council and to all others interested in sanitary matters. A type-written or manuscript report can only be read over to those members of the district council who happen to be present when the report is handed in, and affords no opportunity for that careful consideration which it deserves and requires.

In some cases it has been decided that the Medical Officer's report be "taken as read." Either of these courses must have a tendency to lessen the interest taken by the Medical Officer of Health in the preparation of his report, and to minimise the amount of thought and time devoted to this work.

In some of the annual reports the very admirable plan is adopted of dividing the sanitary districts into localities, with the estimated population and death rates (both from general and special causes) of each sub-division appended. This system is carried out in the reports of the Medical Officers of Health for Berwick-on-Tweed, Blyth (South), Cowpen, Earsdon, Newburn, Tynemouth (Urban), Castle Ward, Glendale, Rothbury, and Tynemouth (Rural), Nos. 1 and 2; the great value of this step is seen by comparing the general death rate for the whole of say the Cowpen district (18·06) with that for the portions of the district, in which it runs up to 25 and 40 per 1,000.

Taking the zymotic death rate for the same year, which is 3·18 for the whole district, we find it reaching 14·09 in one of the sub-divisions.

In each of the reports from the Urban District of Weetslade, and the Rural Districts of Alnwick, Belford, Bellingham, and Haltwhistle, the Medical Officer of Health divides his district into localities, giving the number of deaths occurring in each, but without giving the populations of these sub-divisions, which makes it impossible to calculate the death rates.

SPECIAL REPORTS.

It does not appear to be generally understood that in every case in which a Medical Officer of Health sends a special report to the Local Government Board, a copy of this should simultaneously be sent to the county council.

The general order of the Local Government Board, 1891, which defines the duties of medical officers of health includes the following articles:—

"(15) He shall give immediate information to Us of any outbreak of dangerous epidemic disease within the district, and shall transmit to Us a copy of each annual report and of any special report. He shall make a special report to Us of the grounds of any advice which he may give to the sanitary authority with a view to their requiring the closure of any school or schools, in pursuance of the Code of Regulations approved by the Education Department and for the time being in force."

"(16) *At the same time that he gives information to Us of an outbreak of infectious disease or transmits to Us a copy of his annual report, he shall give the like information or transmit a copy of such report to the county council of the county within which his district may be situated.*"

By a later memorandum, dated July, 1897, the Local Government Board further directs as follows:—

"(13) Reports to sanitary authorities, advising the closure of a school or schools in any district are to be treated as 'special' reports within the meaning of the general order of the Local Government Board of March 23rd, 1891, and copies of them are required by Art. 18 (secs. 15 and 16) of that order, to be sent to the Board and to the county council. These reports should state the grounds upon which the Medical Officer of Health advocates the closure of the school or schools in preference to the exclusion of particular scholars.

"(14) All notices of the sanitary authority for the closing of public elementary schools should be addressed, in writing, to the managers, and should state the grounds upon which the closing is deemed necessary."

"All such notices shall specify a definite time during which the school is to remain closed. This should be as short a period as can be regarded as sufficing on sanitary grounds, since

“a second notice may be given before the expiration of the first,
 “if it should be found necessary to postpone the re-opening of a
 “school. The managers of schools, after complying with the
 “requirements of the sanitary authority, have the right of
 “appeal to the Education Department, if they consider any notice
 “to be unreasonable.”

ADOPTIVE ACTS.

The adoptive Acts are:—The Infectious Diseases Notification Act, 1889; the Infectious Diseases Prevention Act, 1890; the Public Health Amendment Act, 1890.

One or more of these Acts are in operation in the majority of the sanitary districts, but in some, none have been adopted.

The Infectious Diseases Notification Act at the end of 1897 was in operation in 28 out of 35 sanitary districts. Those in which it was not in force were the following:—

URBAN DISTRICTS.					Population.
Amble	...	...	...	...	4,500
Bedlingtonshire	...	...	...	...	18,000
Cramlington	...	...	...	...	6,300
Newbiggin-by-the-Sea	...	...	...	...	2,400
Rothbury	...	...	...	...	1,200
Seghill	...	...	...	...	2,300
					<hr/>
					34,700
RURAL DISTRICT.					
Rothbury	...	...	...	...	4,790
					<hr/>
					<u>39,490</u>

The Act is in force in the new Urban District of Earsdon.

Thus, out of the whole population of 356,253, the advantages of this most valuable Act were denied to nearly 40,000 people.

It is the duty of the Medical Officer of Health, on receiving information of the outbreak of any contagious, infectious, or epidemic disease of a dangerous character within his district, to visit the spot without delay and inquire into the cause and circumstances of such outbreak, and in case he is not satisfied that all due precautions are being taken, to advise the persons competent to act, as to the measures which may appear to him to be required to prevent the extension of the disease, and also to take such steps as he is legally authorised to adopt under any statute in force in the district, or by resolution of the sanitary authority. This being the case it is manifestly of the greatest importance that the Medical Officer of Health should receive information of any case of contagious, infectious, or epidemic disease of a dangerous character at the earliest possible date.

Under the Infectious Diseases Notification Act, “every medical practitioner attending on, or called in to visit the patient, shall, forthwith, “on becoming aware that the patient is suffering from an infectious disease “to which this Act applies, send to the Medical Officer of Health for the “district a certificate stating the name of the patient, the situation of the “building, and the infectious disease from which, in the opinion of such “medical practitioner, the patient is suffering,” and, under the same Act, “the head of the family to which such . . . patient belongs, and in his “default, the nearest relatives of the patient present . . . and in default “of such relatives every person in charge of, or in attendance on, the patient, “and in default of any such person, the occupier of the building shall, as “soon as he becomes aware that the patient is suffering from an infectious “disease to which this Act applies, send notice thereof to the Medical Officer “of Health for the district.”

So that, whether any medical practitioner is in attendance or not, the Medical Officer of Health at once receives information (the Infectious Diseases Notification Act being in force) of any outbreak of infectious disease to which the Act applies within his district, and the parents or persons in charge of the patient receive the necessary directions as to school attendance, isolation, etc.

Without the assistance of compulsory notification he cannot, except indirectly, become possessed of this knowledge. Many mild cases of infectious disease, notably measles, scarlet fever (frequently mistaken for measles), and even diphtheria, are treated (or maltreated) by the parents, without any medical man being called in, and children, frequently themselves in an infectious condition, from this infected house, are allowed to go to and from school, and thus spread the disease amongst those with whom they are in such close contact during school hours.

The only obstacle to the adoption of this Act by the district councils who have not made the notification of infectious diseases compulsory in their sanitary districts, appears to be the slight expense which accompanies the adoption of the Infectious Diseases Notification Act. Surely this is a very short sighted policy, as whatever expense is incurred in checking the spread of infectious disease, must be a very wise outlay, and that the adoption of the Infectious Diseases Notification Act does exert a powerful influence in this direction will be admitted by everyone who will take the trouble to investigate the matter. Moreover in some sanitary districts the adoption of this Act has only entailed an expense of £3—there having been only 24 cases notified during the year. Is it reasonable to argue (as is sometimes done) that this fact proves that compulsory notification is unnecessary in this district? Would it not be more reasonable to conclude that owing to information of a case of infectious disease being promptly furnished to the Medical Officer of Health, and in consequence of his being thus placed in a position, in conjunction with the Sanitary Inspector, to immediately take the necessary steps, the spread of the disease has been avoided to a perfectly unknown number of individuals.

The Infectious Diseases Prevention Act, 1890, may be adopted either as regards all, or any of its sections by any extra metropolitan sanitary authority. It gives powers to deal, in a more satisfactory manner, with the disinfection of infected houses and clothing, and to provide temporary shelter for families who have to vacate their houses, in order that disinfection may be properly carried out; with milk supplies liable to spread infectious disease; with prompt interment of the bodies of persons having died from infectious disease; with detention in hospital of persons who, suffering from an infectious disease and inmates of a hospital, would upon leaving, be without the accommodation necessary to prevent the spread of infection; and it forbids the throwing of infected rubbish, etc., into any receptacle for refuse, without previous disinfection.

The Public Health Amendment Act, 1890, may be adopted by Urban authorities in part or in whole; and by Rural authorities, with the exception of those powers which are limited to urban authorities. It forbids the erection of buildings for human habitation on polluted sites. It gives amended powers as regards bye-laws, with reference to the building of houses, the paving of yards, the regulation of water-closets and other conveniences, the removal of offensive matter during certain hours, etc., the preparation or exposure for sale as human food of unwholesome, unsound, etc., articles, unfit for human consumption, the pollution of watercourses, the notification of infectious diseases, the registration and regulation of common lodging-houses, etc.

BYE-LAWS.

According to the latest information, the following districts have bye-laws :—

Urban—Alnwick, Amble, Bedlingtonshire, Benwell and Fenham, Berwick-on-Tweed, Blyth South, Cowpen, Gosforth, Hexham, Morpeth, Newburn, Newbiggin-by-the-Sea, Tynemouth, Walker, Wallsend, Whitley and Monk-seaton and Willington Quay.

Rural—Alnwick, Belford, Bellingham, Castle Ward, Glendale, Halt-whistle, Hexham, Norham and Islandshire, Tynemouth No. 1 and Tynemouth No. 2.

Of the Urban districts, Ashington, Cramlington, Earsdon, Rothbury, Seghill, and Weetslade have no bye-laws.

Of the Rural districts, Morpeth and Rothbury are without bye-laws.

With regard to the Rothbury Urban district, the bye-laws are in course of preparation.

BYE-LAWS CONFIRMED BY THE LOCAL GOVERNMENT BOARD
DURING THE YEAR 1897.

Morpeth Town Council.	Scavenging and cleaning.
Do. do.	Nuisances.
Do. do.	Common lodging houses.
Do. do.	Markets.
Do. do.	Slaughter houses.
Do. do.	Offensive trades.
Do. do.	Houses let in lodgings.
Glendale Rural District Council.	Scavenging and cleaning.
Do. do.	Common lodging houses.
Do. do.	Streets and buildings.
Do. do.	Slaughter houses.
Tynemouth Town Council.	Common lodging houses.
Do. do.	Markets.
Norham and Islandshire Rural District Council.	Streets and buildings.

FOOD AND DRUGS ACT, 1875.

The number of samples examined during the year was 216, of these 27 were found to be adulterated, and proceedings were taken against 15 persons, in each case a conviction being obtained; fines and costs to the amount of £22 15s. 9d. were imposed.

The samples examined consisted of mustard, ground ginger, sulphur, milk, demerara sugar, tinned green peas, lard, cornflour, arrowroot, olive oil, butter, gin, whiskey, port wine, brandy, rum, oatmeal, sago, and glycerine; the convictions being for milk (3), gin (3), whiskey (5), and rum (4).

LOANS.

Loans for sanitary and other public improvements applied for by the undermentioned Urban and Rural district councils were sanctioned by the Local Government Board, the details of which are given below:—

LOANS SANCTIONED TO URBAN DISTRICT COUNCILS.

Authority.	Purpose.	Amount.	Period for redemption.
Alnwick	Sewerage and sewage disposal	£ 1,320	30 years
Do.	Do. do. ...	430	30 „
Berwick-upon-Tweed (Borough)	Sewerage	1,500	30 „
Blyth, South	Street improvement ...	2,120	7 „
Cowpen	Offices and stables ...	950	20 „

District.				Purpose.	Amount.	Period for re- demption.
					£	
Cowpen	...	...	...	Private street improve- ment	1,526	2 years
Do.	...	...	...	Do. do. ...	474	2 „
Do.	...	...	...	Rubbish tip ...	432	10 „
Do.	...	...	...	Sewerage ...	187	30 „
Do.	...	...	...	Water supply ...	2,070	30 „
Hexham	...	...	...	Cattle market ...	256	20 „
Do.	...	...	...	Private street improve- ment	963	4 „
Do.	...	...	...	Do. do. ...	426	4 „
Do.	...	...	...	Scavenging ...	163	5 „
Do.	...	...	...	Street improvement ...	560	10 „
Morpeth (Borough)	...	...	...	Water supply ...	4,500	30 „
Newburn	...	...	...	Private street improve- ment	2,500	5 „
Do.	...	...	...	Sewerage ...	5,200	30 „
Do.	...	...	...	Sewerage and sewage dis- posal	360	30 „
Rothbury	...	...	...	Interments ...	607	30 „
Tynemouth (Borough)	...	...	...	Public pleasure grounds	350	7 „
Do.	...	...	...	Sewerage ...	100	30 „
Do.	...	...	...	Do. ...	160	10 „
Do.	...	...	...	Do. ...	350	30 „
Do.	...	...	...	Steam road roller ...	305	10 „
Do.	...	...	...	Street improvement ...	241	10 „
Wallsend	...	...	...	Private street improve- ment	6,400	7 „
Do.	...	...	...	Sewerage ...	2,500	30 „
Whitley and Monkseaton	...	...	...	Fire extinguishing appli- ances	250	5 „
Do.	...	do.	...	Water supply ...	200	30 „
Willington Quay	...	...	...	Private street improve- ment	260	7 „
Do.	...	...	...	Sewerage ...	700	30 „
Do.	...	...	...	Stable, fire station, &c....	800	20 „
				Total ...	£ 39,160	
LOANS SANCTIONED TO RURAL DISTRICT COUNCILS.						
Alnwick	...	...	...	Water supply at Hauxley	255	30 years
Do.	...	...	...	Do. Togstone	50	30 „
Rothbury	...	...	...	Interments ...	768	30 „
				Total ...	£ 1,073	

REGULATIONS UNDER THE COW SHEDS, DAIRIES, AND MILK SHOPS ORDER.

The condition of cow sheds, dairies, and milk shops is a matter of the greatest importance; for milk is used as an article of food in nearly every household. It ought to be the sole nourishment of infants, and it should enter largely into the food of children and invalids. It is liable to be highly injurious from various unhealthy conditions existing in the cow, such as tuberculosis, foot and mouth disease, splenic fever, etc. It is also peculiarly liable to absorb offensive gases, sewer and other vapours from uncleanly surroundings, and to transmit various infectious diseases peculiar to man, such as typhus, cholera, tubercular disease, pneumonia, diphtheria, scarlatina, and enteric fever. Micro-organisms gaining access to milk, whether from a

diseased cow, from the hands or clothing of the milker, from polluted water used for rinsing the milk vessels, or diluting the milk, or from particles of dung, find in it a most suitable medium for rapid multiplication.

There are comparatively few cow sheds in the county which do not call for alteration in one or more ways. A large number are absolutely without any provision for drainage ; some drain on to the footpath of a highway. The defects generally in evidence are (1) the small amount of floor space allotted to each cow ; in some cases the sheds are so overcrowded that the cows have to take it in turns to lie down ; (2) insufficient cubic space, the scanty floor space being rendered still more objectionable by the portion above the cow being taken up by fodder ; (3) absence of any adequate provision for light; in many cases no light can enter except through the doorway; (4) uneven floors which hold large quantities of liquid manure; (5) either no provision whatever for drainage, or the untrapped commencement of the drain is placed within the cowshed; (6) no provision for ventilation. Whenever two or more of the above conditions obtain (and there are a larger number of cow sheds in which five out of the six may be found combined) we have all the conditions most favourable to the development of tuberculosis in the cows, and to the furnishing of milk of a most questionable quality. There is a great disinclination to increase either the floor space, or the air space, in cow sheds ; partly on account of the idea that the animals must be kept hot, if a good yield of milk is to be looked for, and partly, possibly chiefly, in consequence of the expense incurred in structural alterations. That milch cows should be kept moderately warm there can be no doubt, but that the requisite temperature can be maintained with an allowance of 800, or even 1,000 cubic feet of air space, for each cow, has been proved on the Continent, in Scotland, in several places in England, and even in this county. As in this climate, the air of a dwelling cannot be changed more than three times in an hour, without a sensible draught, ventilation cannot be made to do duty for an initial deficiency in floor or air space. Necessarily opinions differ amongst owners of property, as to what constitutes an initial deficiency, who are perhaps largely influenced by the average cubic capacity of their own existing buildings. Insufficient light, bad floors, and absence of, or inadequate provision for drainage, all contribute to the development of injurious living organisms, and to a general condition of filth. Ventilation should be so arranged as for it to be impossible to close all the openings. It is a general custom during the winter months to stuff whisps of hay into every opening provided for ventilation. Sanitary authorities failing to make regulations under the Cowsheds, Dairies, and Milkshops Order, are mainly responsible for the deplorable condition of both cowsheds and dairies, so frequently met with.

HOUSING OF THE WORKING CLASSES.

The condition of the houses for the working classes remains practically unchanged ; new houses have been built and eagerly taken up in various districts, but not in sufficient numbers to appreciably relieve the amount of overcrowding which exists in many localities, notably in Alnwick and in many colliery districts ; still several old one-roomed houses have been closed, and those newly erected are in the majority of instances of a very much improved type, both as regards their internal arrangements and surroundings. The old privy middens, however, are still, even for new houses, greatly in evidence, their capacity but little diminished, and in most cases they are uncovered.

The evil results of these unsanitary receptacles are well known ; the ground and the air in the immediate vicinity of the houses are grossly polluted ; the walls and floors of these outoffices are but very rarely cemented, and, consequently, not being water tight, there is a constant soakage of a liquid filth into the walls and ground, and the air is vitiated by foul gases, the products of decomposition. All uncovered ashpits receive large quantities of rain water, and it is quite common to see a rain water spout delivering into them. These arrangements, and the practice of allowing large quantities of refuse

of all kinds to accumulate, greatly facilitate decomposition, with all its evil consequences, when in the immediate vicinity of a dwelling, and no one at all familiar with these conditions can have failed to notice the amount of germ-laden material, and the intolerable stench which enters the neighbouring houses during the process of removing a three-months' accumulation. The one recommendation in the eyes of owners of property, possessed by large uncemented and uncovered privy-ashpits, would appear to be their cheapness; inexpensive to erect, and the greater the capacity the less frequently is emptying carried out; to this one recommendation, all other considerations are sacrificed.

SCAVENGING.

There appears in some quarters a disposition to carry out scavenging operations at shorter intervals than formerly; in others, the ashpit filled to its utmost capacity, and two or more cartloads of refuse deposited on the ground, is still to be found.

POLLUTION OF RIVERS AND STREAMS.

But little progress has been made during the year in the direction of freeing the rivers and streams from sewage and other pollution. The Morpeth Town Council have caused plans to be prepared, of two different methods of dealing with the sewage. Efforts are being made at Ponteland, to acquire the necessary land required by the Local Government Board, in connection with the sewage disposal scheme adopted in 1896; there appears a likelihood of the sewage from Hexham being efficiently treated during next year, and of the sewage disposal scheme for Alnwick being completed. The disgraceful condition of Willington Cut remains unaltered, in consequence of crude sewage being discharged into it, from the Tynemouth Rural district in an ever increasing quantity.

ISOLATION HOSPITALS.

The only sanitary districts mentioned in the reports as having hospital accommodation for the isolation of infectious diseases are the Urban districts of Alnwick, Bedlingtonshire, Berwick-upon-Tweed, Blyth (South), Cramlington, Tynemouth, Wallsend, and Willington Quay.

The only Rural district having hospital accommodation is Belford.

I very much regret to state that no definite steps have been taken in the direction of providing isolation hospitals in this county, either for individual authorities or for combined districts. The amount of isolation hospital accommodation available is as follows:—Alnwick, 6 beds; Bedlingtonshire, 9 beds; Berwick-upon-Tweed, 8 beds; Blyth (South) (Blyth Port Sanitary Authority Hospital), 18 beds; Cramlington, 12 beds; Tynemouth, 10 beds; Wallsend and Willington Quay, 21 beds; Belford, 6 beds—total, 90, for a population of 327,453 (population of Northumberland, minus the Urban districts of Cowpen and Walker).

The number of cases treated in these institutions during 1897 was 83, in the following districts:—Alnwick 1, Berwick 1, Blyth (South) 18, Cramlington 5, Tynemouth 13, Walker 7, Wallsend 12, Willington Quay 17, and Belford 9.

In 5 of the Urban districts cases of infectious disease were notified during *each* month of the year. In 5 during 11 months; in 4 during 10 months; in 1 during 8 months; in 3 during 7 months; in 3 during 5 months; in 1 during 4 months; and in 1 during 2 months.

In the Rural districts cases were notified during 11 months of the year in one district; in 3 districts during 10 months; in 4 during 9 months; in 3 during 8 months; and in 1 during 7 months.

Only 1 Urban district was free from infectious disease during a whole quarter, and not one of the Rural districts could claim a similar exemption. From one district I only received information during 2 months out of the

12. In the face of these statistics, it can hardly be urged by Sanitary Authorities, as a reason for failing to provide isolation hospitals, that they would frequently be empty for long periods, nor can it be denied that they incur a very grave responsibility, by not providing the means of isolating cases of infectious disease, especially in colliery and other densely populated districts. The members of District Councils are well aware that isolation, in an ordinary colliery house, containing only two rooms, or it may be only one, is absolutely impossible, and yet up to the end of the year under consideration (1897), only 9 Sanitary Authorities have provided isolation hospitals, to which a case of infectious disease may be removed. In addition to the 9 sanitary authorities just alluded to, the Urban district of Cowpen (population 16,000), and the Urban district of Walker (population 12,800), have an arrangement under which cases of infectious disease can be removed to hospitals, provided by other authorities, but in each case only, of course, when there are beds to spare. Every sanitary district should undoubtedly be in a position both to remove a patient attacked by infectious disease from amongst other members of the family, and from the general community, and also possess the means of efficiently disinfecting bedding, wearing apparel, &c. These are frequently as great sources of danger as the patient himself, and yet not a single Urban or Rural sanitary authority in this county, has provided a steam disinfecter. The population of the 9 sanitary districts having isolation hospitals is 128,519, and the number of beds is 90, or an average of 1 bed for every 1,428 persons; the population of the 26 sanitary districts (including the Urban districts of Cowpen and Walker) not possessing isolation hospitals is 227,734; or, excluding the two Urban districts just mentioned, 198,934.

WORK ACCOMPLISHED BY SANITARY INSPECTORS.

Very few reports have been received from sanitary inspectors; and it has therefore not been found possible to fill in the sheet at the end of this report, and by that means place on record the amount of work accomplished by these officials. It is much to be hoped that for the next annual report more information under this heading may be forthcoming.

I have again to thank all the medical officers of health for the information and assistance they have at all times so kindly placed at my disposal, and the different surveyors and inspectors, whose local knowledge has so frequently been of material help to me.

I am, Gentlemen,

Your obedient servant,

J. W. HEMBROUGH.

THE COUNTY AS A WHOLE.

AREA.

The area of the county is 1,262,505 acres.

POPULATION.

The population of Northumberland (exclusive of Newcastle-upon-Tyne) estimated to the middle of 1897, is 356,253, being an increase of 35,823 over the 1891 census, and an increase of 6,672 over the population estimated to the middle of 1896.

The county up to the end of 1897, was divided for the purpose of sanitary administration into 35 districts, of which 23 were Urban and 12 Rural, as compared with 32 at the end of 1895, and 34 at the end of 1896. The increase during the year 1897 being caused by the formation of the Urban District of Earsdon, to which Dr. Taylor Dixon was appointed Medical Officer of Health.

The area of the Urban districts (61,466 acres) has thus been increased to the extent of 4,711 acres, and the area of the Rural districts proportionately diminished.

The average number of persons per acre is for the county 0·28, for the Urban districts 3·66, and for the Rural districts 0·10.

This, however, is subject to great variation, thus in the Urban District of Willington Quay, the average population is 24·40, while in the Urban district of Rothbury it is only 1·26. In the Rural districts the highest average is that of Tynemouth No. 2 (1·86) and the lowest that of Rothbury (0·02).

The area and estimated population of each sanitary district in the administrative county, will be found in a table at the end of this summary.

URBAN DISTRICTS.

Alnwick, Amble, Ashington, Bedlingtonshire, Benwell and Fenham, Berwick-upon-Tweed, Blyth (South), Cowpen, Cramlington, Earsdon, Gosforth, Hexham, Morpeth, Newbiggin-by-the-Sea, Newburn, Rothbury, Seghill, Tynemouth, Walker, Wallsend, Weetslade, Whitley and Monkseaton, and Willington Quay, with a population (estimated to the middle of 1897) of 231,070.

RURAL DISTRICTS.

Alnwick, Belford, Bellingham, Castle Ward, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1 and Tynemouth No. 2, with a population (estimated to the middle of 1897) of 125,253. The population of the Rural districts has been decreased, and that of the Urban districts similarly augmented by the formation of the Earsdon Urban District out of the Tynemouth Rural Districts.

BIRTHS.

The births registered during 1897 numbered 11,250, giving a birth rate of 31·5 per 1,000. In 1896 the birth rate was 31·75, and in 1895 32·59.

Of the 11,250 births, 7,936 occurred in the Urban, and 3,314 in the Rural districts. The birth rate for the former was 34·34 per 1,000 (34·62 in 1896), and for the latter 26·45 (27·07 in 1896).

The following table shows the comparative rates :—

	Birth Rate.	Increase since 1896.	Decrease since 1896.
Administrative County...	31·57	—	0·18
Urban Districts...	34·34	—	0·28
Rural Districts ...	26·45	—	0·62
England and Wales ...	29·7	Same as in 1896.	Same as in 1896.

The three highest birth rates for each 1,000 living, in each class of districts, were found to be in the following districts :—

Urban District.	Birth Rate.	Rural District.	Birth Rate.
Weetslade ...	46·20	Tynemouth No. 2 ...	32·19
Ashington ...	44·90	Tynemouth No. 1 ...	32·11
Blyth South ...	43·67	Haltwhistle ...	28·65

while the three lowest in each class were furnished by

Urban District.	Birth Rate.	Rural District.	Birth Rate.
Whitley and Monkseaton...	17·06	Glendale ...	18·11
Seghill ...	22·17	Bellingham ...	22·66
Gosforth ...	22·76	Rothbury ...	23·38

DEATHS.

The number of deaths registered during 1897 was 5,962, of which 4,108 took place in Urban, and 1,854 in Rural districts.

The County death rate was 16·73, as compared with 15·87 in 1896, and 18·72 in 1895; that of the Urban districts was 17·77, as compared with 17·04 in 1896, and 20·28 in 1895; and the Rural death rate was 14·80, as against 13·96 in 1896, and 16·49 in 1895.

The death rate for England and Wales was 17·40, as compared with 17·10 in the previous year.

The approximate Urban death rate for England and Wales was 18·2, and the approximate Rural death rate 15·8.

The following table shows the comparative rates:—

Districts.	Death Rate.	Increase since 1896.	Decrease since 1896.
Administrative County... ..	16·73	0·86	—
Urban Districts... ..	17·77	0·73	—
Rural Districts	14·80	0·84	—
England and Wales	17·40	0·30	—

The three highest death rates in each class of districts were found to be as follows for each 1,000 living:—

Urban District.	Death Rate.	Rural District.	Death Rate.
Gosforth	21·23	Tynemouth No. 1	21·90
Hexham	21·16	Belford	17·71
Morpeth	21·11	Castle Ward	17·70

while the three lowest were recorded as under:—

Urban District.	Death Rate.	Rural District.	Death Rate.
Whitley and Monkseaton... ..	10·25	Morpeth	10·88
Seghill	12·17	Rothbury	11·69
Wallsend	12·62	Glendale	12·50

INFANT MORTALITY (UNDER ONE YEAR).

The number of deaths of children under one year was, in the Urban districts, 1,260, and in the Rural districts, 435; total, 1,695. The following table shows the comparative rates of infant mortality (deaths under one year per 1,000 births).

	Number of deaths.	Death rate per 1,000 births.	Decrease since 1896.	Increase since 1896.
Administrative County	1,695	150·66	—	19·92
Urban Districts	1,260	158·77	—	11·83
Rural Districts	435	131·26	—	15·83
England and Wales	143,814	156	—	8·00

In 11 of the Urban districts the infant mortality rate was higher, and in 10 lower than in 1896, while that of Bedlingtonshire remained the same as before. The Urban District of Earsdon having only been formed this year, (1897) cannot be compared with previous years.

In 11 of the Rural districts the infant mortality rate was higher, and in one (that of Bellingham) lower than in 1896.

When we consider the principal causes of death at this age period—improper feeding, improper clothing, and exposure to cold—the extent to which children are supplied with food, which it is impossible for them to digest, and from which they cannot derive that amount of nourishment which is necessary to keep body and soul together; it is not to be wondered that of every 1,000 children born, about 150 die before they complete their first year; and yet this high mortality is quite preventable, and will be very materially reduced, as soon as those responsible for the feeding, clothing, and general care of infants, acquire some little knowledge on these very important subjects.

Amongst the accomplishments now taught in private and Board schools, and under the auspices of the Technical Education Committees of county councils, some instruction in the first principles of hygiene, and in the rearing and clothing of children, might surely find a place, with great advantage, for it is only the young who are likely to tolerate, and benefit by instruction on these subjects. The fully fledged mother, especially if she “has had twelve children and buried ten before they were a year old,” considers that she knows more about the rearing and clothing of children, than anyone can teach her.

DEATHS UNDER 5 YEARS.

The deaths under 5 years numbered 2,331, giving a death rate at this age period of 6·54 per 1,000 living, as compared with 6·06 in 1896, and 7·39 in 1895.

The following table show the numbers and rates for the four years 1894-97 inclusive:—

1894.				
Urban.	Rural.	Total.	Death Rate.	
1,254	752	2,006	5·88	
1895.				
Urban.	Rural.	Total.	Death Rate.	Death Rate Increase.
1,746	778	2,524	7·39	1·51
1896.				
Urban.	Rural.	Total.	Death Rate.	Death Rate. Decrease since 1895.
1,540	582	2,122	6·07	1·32
1897.				
Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1896.
1,752	579	2,331	6·54	0·47

DEATHS AT 65 YEARS AND UPWARDS.

The number of deaths at this age period was 1,327, giving a death rate of 3·72 per 1,000 living.

Of these deaths 771 took place in the Urban districts and 556 in the Rural districts.

The following tables show the figures for the four years 1894-1897 inclusive :—

1894.					
Urban.		Rural.		Total.	Death Rate.
706		534		1,240	3·63

1895.						
Urban.		Rural.		Total.	Death Rate.	Death Rate Increase.
805		647		1,452	4·25	0·62

1896.							
Urban.	Rural.	Total.	Death Rate.	Death Rate Decrease since 1894.	Death Rate Increase since 1894.	Death Rate Decrease since 1895.	Death Rate Increase since 1895.
644	525	1,169	3·34	0·29	—	0·91	—

1897.							
Urban.	Rural.	Total.	Death Rate.	Death Rate Increase since 1895.	Death Rate Decrease since 1895.	Death Rate Increase since 1896.	Death Rate Decrease since 1896.
771·	556	1,327	3·72	—	0·53	0·38	—

ZYMOTIC DISEASES.

584 deaths occurred from the seven principal zymotic diseases, being an increase of 74 as compared with the number registered in 1896. Of these deaths 461 took place in the Urban, and 123 in the Rural districts. The zymotic diseases which caused the greatest mortality were :—Diarrhœa 225, measles 136, enteric fever 87.

Diseases.						Numbers in 1896.	Numbers in 1897.
Diarrhœa	...	...	...	...	...	120	225
Measels	...	...	...	...	...	95	136
Enteric Fever	...	...	...	...	...	76	87

As diarrhœa and measles are not generally notifiable, I can give no information as to the number of cases which have occurred. The following table shews where the zymotic death rate was highest in the two classes of districts :—

Urban.				Death Rate.	Rural.				Death Rate.
Blyth (South)	...	...	...	5·67	Tynemouth No. 1	..	...	...	3·21
Earsdon	...	...	...	3·41	Tynemouth No. 2	...	...	...	2·72
Walker	...	...	...	3·20	Haltwhistle	...	...	...	1·71

And the lowest are shown by the next table:—

Urban Districts.	Death Rate.	Rural Districts.	Death Rate.
Seghill	Nil	Glendale	0·09
Rothbury	Nil	Norham & Islandshires ...	0·15
Morpeth	0·36	Bellingham	0·33

The comparative rates are set out in the following table:—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County ...	1·69	—	0·23
Urban Districts	2·06	—	0·36
Rural Districts	1·00	0·06	—
England and Wales	2·15	0·02	—

In 1897 the zymotic death rate showed an increase in 16 districts, and an decrease in 15 districts as compared with 1896; in three districts (Seghill, Bedlingtonshire, and Rothbury Rural) the zymotic death rate remains the same as for last year. The Urban District of Earsdon was not formed in 1896, therefore no comparison can be made.

ZYMOTIC DEATH RATES.

District.	1895.	1896.	1897.	Decrease since 1896.	Increase since 1896.
URBAN.					
Alnwick	6·87	0·60	0·74	—	0·14
§ Amble	3·00	Nil.	0·66	—	1·33
Ashington	—	1·44	2·00	—	0·56
§ Bedlingtonshire ...	3·61	2·00	2·00	—	—
Benwell and Fenham ...	1·62	1·71	1·75	—	0·04
Berwick-upon-Tweed ...	1·57	1·12	2·10	—	0·98
Blyth South	5·38	2·76	5·67	—	2·91
Cowpen	4·80	4·07	3·18	0·89	—
§ Cramlington	4·42	3·44	1·90	1·54	—
Earsdon	—	—	—	—	—
Gosforth	0·92	0·92	1·07	—	0·15
Hexham	1·34	2·16	3·00	—	0·84
Morpeth	1·69	0·93	0·36	0·57	—
§ Newbiggin-by-the-Sea ...	Nil.	0·84	1·25	—	0·41
Newburn	2·15	1·78	1·73	0·05	—
§ Rothbury	—	0·77	Nil.	0·77	—
§ Seghill	1·74	Nil.	Nil.	—	—
Tynemouth	2·40	0·90	2·40	—	1·50
Walker	5·46	†3·76	*3·20	0·56	—
Wallsend	1·64	1·20	1·06	0·14	—
Weetslade	3·00	4·40	0·80	3·60	—
Whitley & Monkseaton..	2·17	0·40	0·86	—	0·46
Willington Quay ...	2·26	1·98	1·70	0·28	—
RURAL.					
Alnwick	2·46	1·06	0·41	—	0·65
Belford	1·63	1·03	0·41	0·62	—

District.	1896.	1896.	2896.	Decrease since 1896.	Increase since 1896.
RURAL—continued.					
Bellingham	0·32	0·66	0·33	0·33	—
Castle Ward	1·68	0·52	1·05	—	0·53
Glendale	0·59	0·29	0·09	0·20	—
Haltwhistle	0·50	1·12	1·71	—	0·59
Hexham	0·90	0·93	0·64	0·29	—
Morpeth	1·69	0·99	0·82	0·17	—
Norham & Islandshire...	0·63	0·47	0·15	0·32	—
§ Rothbury	0·33	0·62	0·62	—	—
Tynemouth No. 1 ...	2·48	1·67	3·21	—	1·54
Tynemouth No. 2 ...	3·31	2·31	2·72	—	0·41

* 1·17 after deducting 26 deaths in the city hospital.

† 2·08 after deducting 21 deaths in hospital of persons from other districts.

§ Notification Act not in force.

Table showing rates for the three years ending 31st December, 1897.

	1894	1895	1896	1897	Decrease. 1897	Increase. 1897
Smallpox	Nil.	Nil.	Nil.	Nil.	—	—
Scarlatina	0·22	0·30	0·24	0·13	0·11	—
Diphtheria	0·18	0·14	0·18	0·08	0·10	—
Enteric Fever	0·22	0·35	0·21	0·24	—	0·03
Measles	0·26	0·40	0·27	0·37	—	0·10
Whooping Cough ...	0·26	0·33	0·27	0·16	0·11	—
Diarrhoea	0·34	0·73	0·34	0·63	—	0·29

Cases of zymotic diseases notified from each district:—

URBAN.

1 Name of District.	2 Number of cases notified.	3 Percentage of population attacked as notified.	4 Mortality rate for all zymotic diseases notified or ascertained.
Alnwick	2	0·03	0·74
§ Amble... ..	—	—	0·66
Ashington	33	0·33	2·00
§ Bedlingtonshire ...	—	—	2·00
Benwell and Fenham (measles notifiable)	562	0·32	1·75
Berwick-upon-Tweed ...	48	0·36	2·10
Blyth (South)	44	1·08	5·67
Cowpen	343	2·14	3·18
§ Cramlington	—	—	1·90
Earsdon	31	0·37	3·41
Gosforth	21	0·32	1·07
Hexham	197	3·28	3·00
Morpeth	28	0·51	0·36
§ Newbiggin-by-the-Sea ...	—	—	1·25

1 Name of Districts.	3 Number of cases notified.	3 Percentage of population attacked as notified.	4 Mortality rate for all zymotic diseases notified or ascertained.
Newburn	91	0·98	1·73
§ Rothbury	—	—	Nil
§ Seghill	—	—	Nil
Tynemouth	132	0·25	2·40
Walker	102	0·79	3·20
Wallsend	71	0·44	1·06
Weetslade	22	0·44	0·80
Whitley and Monkseaton	25	0·43	0·86
Willington Quay	48	0·58	1·70

§ Notification Act not in force.

The calculations in column 3 do not include 531 cases of measles from the district of Benwell and Fenham, nor 11 from Hexham, as in the majority of districts this disease is not notifiable.

RURAL.

1 Name of District.	2 No. of cases notified.	3 Percentage of population attacked as notified.	4 Mortality rate for all zymotic diseases notified or ascertained.
Alnwick	20	0·16	0·41
Belford	19	0·39	0·41
Bellingham	6	0·10	0·33
Castle Ward	22	0·23	1·05
Glendale	33	0·32	0·09
Haltwhistle	51	0·62	1·71
Hexham	139	0·49	0·64
Morpeth	17	0·10	0·82
Norham and Islandshire	20	0·31	0·15
§ Rothbury (ascertained)	38	0·79	0·62
Tynemouth No. 1	132	1·51	3·21
Tynemouth No. 2	48	0·45	2·72

§ Notification Act not in force.

The zymotic diseases which are generally notifiable are smallpox, scarlatina, diphtheria, and the four fevers—typhus, enteric, continued, and relapsing—grouped together. As before noted, the three zymotic diseases which caused the largest number of deaths were diarrhoea, measles, and enteric fever, but, as the notification of the two former is not compulsory, it is therefore impossible to make any reliable calculation as to the number of cases. Of the 584 deaths from the seven principal zymotic diseases in the county, 136 (more than one-fourth) were due to measles.

CHOLERA.

There were no cases of cholera reported during the year 1897.

SMALLPOX.

There were no cases of smallpox reported during the year 1897, this is a decrease of 5 upon the previous year.

CHICKEN POX.

Chicken pox was present in only a few districts.

SCARLATINA.

1,281 cases of scarlatina were notified during the year; 912 in the Urban and 369 in the Rural districts, causing 47 deaths, as compared with 84 in 1896, and 104 in 1895. Of the 47 deaths, 37 occurred in the Urban, and 10 in the Rural districts.

The following table gives the comparative death rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·13	0·11	—
Urban Districts	0·16	0·13	—
Rural Districts	0·07	0·08	—
England and Wales	0·14	0·04	—

In the Urban districts the greatest number of cases occurred in Cowpen (203), Hexham (171), Walker (85), Tynemouth (81), Newburn (67), and Wallsend (55).

In the Rural districts the greatest number of cases appeared in Hexham (112), Tynemouth No. 1 (92), and Haltwhistle (51).

MEASLES.

There were 136 deaths from measles, 106 of which occurred in the Urban, and 30 in the Rural districts.

The following table shows the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·38	—	0·11
Urban Districts	0·41	—	0·08
Rural Districts	0·23	—	0·07
England and Wales	0·40	0·16	—

But very slight (if any) precautions are usually taken to prevent the infection from spreading, it being a common, though erroneous belief, that all children are bound to have measles, and that the sooner they get it over the better. Considering the great mortality from this cause amongst children under five years of age, principally due to measles being so frequently complicated with bronchitis or pneumonia, it is evident that if the attack could be postponed until after the fifth year the mortality would be greatly reduced. The closure of infant schools is frequently a valuable help in cutting short an epidemic of this nature. The disease is infectious before the rash appears, and the children, if kept from school, *may* possibly play together in the open air of the streets; they *must*, if attending school, be shut up for hours in the same room, and inhale each other's breath. With a view to discovering the insanitary surroundings which so greatly increase the mortality from this disease, the exclusion from school of children from infected houses or infected areas, and determining the question of school closure, before a widespread epidemic has occurred in any district, I have recommended the addition of measles to the list of notifiable diseases, with the suggestion, that arrangements should be made with medical practitioners, for only one case to be notified from any house during a month.

The recommendation to add measles to the list of notifiable diseases has frequently been negatived, on the score of expense, but if the plan were adopted of limiting the number notified, to one from each family in 28 days, the expense to the authority would not be serious, and the notification would, as well as doing good generally, tend to lessen the infection from scarlatina

cases, which are frequently mistaken by parents for measles. I have recently heard of this arrangement having been voluntarily adopted, in more than one district, and that no difficulties were experienced in its working.

TYPHUS FEVER.

There was one case notified during the year (from Cowpen), which did not prove fatal. There were two deaths reported in 1896, and one in 1895.

ENTERIC FEVER.

There were 344 cases of enteric fever notified during the year, resulting in 87 deaths, as compared with 76 in 1896, 122 in 1895, and 73 in 1894. Of these 87 deaths, 69 occurred in the Urban and 18 in the Rural districts.

The following table shows the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·24	—	0·03
Urban Districts	0·29	—	0·03
Rural Districts	0·14	Same as in 1896.	Same as in 1896.
England and Wales	*		

* The Registrar General does not give the death rate for Enteric (or Typhoid) Fever singly.

Of the 344 cases notified or ascertained during the year, 275 were from the Urban, and 69 from the Rural districts. The number of cases notified per 1,000 living was 0·96. In the Urban districts the greatest number of cases occurred in Cowpen (86), Cramlington (32), Tynemouth (30), and Bedlingtonshire (30).

In the Rural districts the greatest number of cases occurred in Tynemouth No. 1 (32).

The period of the year during which enteric fever was most prevalent was the months of August, September, and October.

DIPHTHERIA AND MEMBRANOUS CROUP.

There were 117 cases notified during the year, 97 being returned as diphtheria, and 20 as membranous croup.

The diseases (one or both of them) were notified or ascertained from the following districts :—

Urban.—Bedlingtonshire, Benwell and Fenham, Berwick-upon-Tweed, Blyth (South), Cowpen, Cramlington, Earsdon, Hexham, Newburn, Tynemouth, Walker, Wallsend, Weetslade, and Willington Quay.

Rural.—Alnwick, Belford, Bellingham, Glendale, Haltwhistle, Hexham, Morpeth, Norham and Islandshire, Rothbury, Tynemouth No. 1, and Tynemouth No. 2.

From 25 districts, as compared with 26 in 1896.

There were 31 deaths from diphtheria, and 18 from membranous croup, during the year ; of the former, 21 occurred in the Urban and 10 in the Rural districts ; and of the latter, 14 in the Urban, and 4 in the Rural districts.

The following table shows the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·13	0·05	—
Urban Districts	0·15	0·04	—
Rural Districts	0·11	0·04	—
England and Wales	0·24	0·05	—

WHOOPING COUGH.

There were 58 deaths from whooping cough, 44 of which took place in the Urban, and 14 in the Rural districts.

The following table shows the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·16	0·11	—
Urban Districts	0·18	0·09	—
Rural Districts	0·11	0·15	—
England and Wales	0·35	0·06	—

PUERPERAL FEVER.

This disease caused 14 deaths in the county during the year, as compared with 17 in 1896. Of the 14 deaths, 9 occurred in the Urban, and 5 in the Rural districts.

The following is a table of the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·03	0·02	—
Urban Districts	0·03	0·02	—
Rural Districts	0·03	0·02	—
England and Wales	*	—	—

* The Registrar General gives no figures except for London.

ERYSIPELAS.

There were 14 deaths from erysipelas during the year, 11 in the Urban, and 3 in the Rural districts.

The comparative rates will be seen by reference to the following table :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·03	Same as previous year.	Same as previous year.
Urban Districts	0·04	—	0·01
Rural Districts	0·02	0·02	—
England and Wales	*	—	—

* The Registrar General does not deal with this disease separately.

Erysipelas is a disease greatly fostered by insanitary surroundings, and one to which wounded surfaces are peculiarly susceptible.

Pollution of the foundations of the houses, or of the adjacent ground, by badly constructed privy-ashpits, or by leaky drains, by the constant forcing of trapped gullies, placed close to the house door, or pantry window, and by other insanitary surroundings, have frequently caused repeated attacks of erysipelas in the same family, as is shown by the disease failing to re-appear when these defects have been remedied.

DIARRHŒA.

The number of deaths was 225, as compared with 120 in 1896, and 250 in 1895. Of these deaths 184 occurred in Urban, and 41 in Rural districts. The following table shows the comparative rates :—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	0·63	—	0·29
Urban Districts	0·79	—	0·38
Rural „	0·32	—	0·10
England and Wales	0·86	—	0·33

Diarrhoea when epidemic is generally associated with high temperature. When not epidemic it is usually due to improper food, and is especially frequent amongst children brought up by hand. As long as young children are reared (!) upon food which it is impossible for them to digest, so long will diarrhoea and other wasting diseases of children continue to claim their percentage of preventible deaths.

PHTHISIS.

There were 535 deaths from this disease in the administrative county during the year, distributed as follows:—367 in the Urban and 168 in the Rural districts.

The number of deaths in 1896 was 503, and in 1895, 555.

The comparative rates are shown in the following table:—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	1·50	—	0·07
Urban Districts	1·58	—	0·08
Rural Districts	1·34	—	0·03
England and Wales	*	—	—

*The Registrar General does not give the phthisis death rate except for London.

This disease is mainly spread by the expectoration from tuberculous patients, by the milk of tuberculous cows, and by eating tuberculous meat. Measures directed against the first of these, must be in the direction of destroying the bacilli before the expectoration becomes dried and pulverised, (as this condition so greatly favours the dissemination and inhalation of the organisms special to this disease). In hospitals, and in the case of patients confined to the house, it is easy to accomplish this, but amongst consumptives not confined to the house, infective sputum is constantly expectorated, not only indiscriminately out of doors, but on the floors of railway carriages and other public conveyances, and stored up in handkerchiefs, becoming when dried, a decided source of danger to the rest of the community. The great safeguard against the consumption of tuberculous meat is thorough systematic inspection by competent men, of all meat exposed for sale, which is greatly facilitated by the erection of public abattoirs. As regards the danger from tuberculous milk, the measures adopted must be in the direction of stamping out tuberculosis from every herd of milch cows, and, in the case of the slightest suspicion attaching to any particular milk supply, the boiling of milk before use.

RESPIRATORY DISEASES.

There were 737 deaths from respiratory diseases (exclusive of tuberculosis) in the Administrative county during the year, 519 taking place in the Urban and 218 in the Rural districts.

The following table shows the comparative rates:—

	Death Rate.	Decrease since 1896.	Increase since 1896.
Administrative County	2·06	—	0·14
Urban Districts	2·24	—	0·12
Rural Districts	1·74	—	0·17
England and Wales	*	—	—

* The Registrar General gives the death rate for London only.

THE SANITARY DISTRICTS IN THE COUNTY.

PORT SANITARY AUTHORITIES.

TYNE PORT.

Medical Officer of Health—WILLIAM EDMUND HARKER, M.D., B.H.Y.

During the year 1897, the total number of vessels inspected by the officials was 15,351, made up as follows:—

Vessels arriving coastwise	...	...	...	...	7,593
Fishing vessels arriving coastwise	...	...	...	...	2,903
Vessels arriving from foreign ports	...	...	...	...	4,855
					<u>15,351</u>

The above vessels are further classified as under:—

British steamers	...	...	...	...	9,044
„ sailing vessels	...	...	...	...	942
„ fishing „	...	...	...	...	2,903
Foreign steamers	...	...	...	...	1,926
„ sailing vessels	...	...	...	...	536
					<u>15,351</u>

In addition to the above inspections, 262 extra visits were paid; also 58 inspections of water boats, and the steamboat gangways from the Fish Quay North Shields, to Elswick, were inspected twice (50 visits in all), bringing the grand total of visits for the year up to 15,721, made up as follows:—

Inspections as above	...	...	...	15,351
Extra visits	...	...	...	262
Water boats	...	...	...	58
Gangways	...	...	...	50
				<u>15,721</u>

The increase in the total number of visits over those of 1896 is shown as under:—

Year 1897	...	...	...	15,721
„ 1896	...	...	...	13,118
				<u>2,603</u>

The number of crews, passengers, and emigrants, embraced in the foregoing inspections was as follows:—

Crews	...	...	...	180,159
Passengers	...	...	...	22,727
Emigrants	...	...	...	1,133
				<u>204,019</u>

The sanitary condition of the vessels inspected is thus stated:—

Good	...	...	...	13,439
Structural defects	...	...	...	342
Dirty condition	...	...	...	1,570
				<u>15,351</u>

The enormous increase in the work of inspection at this port will be readily appreciated by noting the number of inspections in 1879, when the authority came into existence, which was only 2,410.

As regards the 1,570 vessels complained of as being in a dirty condition, the orders to remedy the same were fully complied with.

Special Cargoes Inspected.—Among the different cargoes examined by the inspectors were the undermentioned :—

Description.	Rags.	Bones.	Onions.	Wheat.	Foreign and British Fish.	Potatoes.	Fruit.	Total.
Number of Consignments examined.	74	4	8	161	2,903	22	98	3,270

During the year, 16 patients were admitted to the floating hospital. The diseases from which they were suffering were given as:—Smallpox, 3; scarlet fever, 2; enteric fever, 7 (2 of which turned out to be diarrhoea); measles, 3; and diphtheria, 1. The greatest care was taken, by every possible means, to prevent the spread of disease.

BLYTH PORT.

Medical Officer of Health—JOHN CROMIE, L.R.C.P., L.R.C.S.

During the year 2,242 vessels arrived at the port of Blyth, representing a tonnage of 1,378,178 tons; this is an increase of 125 vessels and 76,536 tons over the previous year.

The ships are classified as follows :—

British steam	...	960	Foreign steam	...	935
„ sailing	...	86	„ sailing	...	261
		1,046			1,196

All these were inspected as soon after arrival as possible. The following defects were found :—

British vessels, defects in structural arrangements	...	...	52
„ „ „ sanitary arrangements	...	...	154
Foreign „ „ „ „	...	...	144
Total number of vessels in defective condition	...	...	350

The defects complained of were all remedied before the ships left the port.

During the year 15 cases of sickness were reported, and are classified as follows :—Infectious diseases 6; non-infectious diseases 9.

The non-infectious cases included 3 of bronchitis, 3 of rheumatism, and 3 of catarrh.

The infectious diseases included typhoid fever 2; continued fever 2; choleraic diarrhoea 2.

On August 16th, the s.s. “Isle of Hastings” arrived with one of her crew suffering from typhoid fever. He was immediately removed to the hospital. The ship was thoroughly disinfected, the water tanks were pumped out, cleaned, and a fresh supply taken.

On August 31st, the s.s. Baron Glamis arrived with two of her crew suffering from choleraic diarrhoea. They were removed to the hospital. The ship was disinfected, and a fresh water supply taken in.

On September 3rd, the s.s. “Sirius” arrived with one of her crew suffering from continued fever. He was removed to the hospital, and the ship thoroughly disinfected, as in previous cases.

On September 14th, the s.s. "Australia" arrived with one of her crew suffering from typhoid fever. He was at once removed to the hospital, and the ship was thoroughly disinfected.

On September 29th, the s.s. "Baron Clyde" arrived with one of her crew suffering from continued fever. He was removed to the hospital, and the ship and water supply dealt with as in previous cases.

The Medical Officer received no complaints respecting food or water during the year.

The regulations under section 125 Public Health Act, 1875, were adopted during the year, and are now in force.

In addition to those cases already enumerated, 18 patients were admitted to the isolation hospital during the year, all the cases being typhoid fever. The Medical Officer for Cowpen sent 13 patients, the Medical Officer for Blyth sent 4 patients, and the Medical Officer for the Tynemouth Rural District sent 1 patient. Of the total number of cases treated in the hospital during the year, 23 were discharged convalescent, and one, who was moribund when admitted, died.

During the year the third ward of the hospital was furnished, and will be used when required.

A hose ambulance has been provided, and is quite satisfactory.

The Medical Officer points out the great need of a steam disinfecter, and advises that one be procured.

URBAN DISTRICTS.

ALNWICK.

Medical Officer of Health—G. F. EASTON, M.D.

Area, 4,777 acres ; Estimated population, 1897, 6,691 ; Birth rate, 30·49 ; *Death rate, 20·62 ; Zymotic death rate, 0·74 ; Infant mortality rate (per 1,000 births), 127·45 ; Phthisis death rate, 1·94 ; Death rate from respiratory diseases, 3·14.

The birth rate is higher by 5·98 per 1,000 than that recorded for 1896.

The death rate is higher than in 1896, when it was 19·13. The zymotic death rate is also higher, the rate recorded for the year 1896 having been 0·60.

The infant mortality rate is lower by 24·99 per 1,000 births than in 1896.

Improvements. Water supply well sustained during the year. The greater portion of the main sewerage scheme completed and in satisfactory working order, and a consequent diminution in the number of flooded cellars, &c.

Erection of new dwelling-houses upon land belonging to Earl Percy, and under the control of a private association, the members of which are of his lordship's selection. The abatement and removal of several nuisances.

Requirements. Increased common lodging-house accommodation. Completion of the sewerage scheme. The erection of more houses for the working classes. The opening out of many crowded courts and alleys, and the removal of many unsanitary or obstructive buildings. Facilities for storing a larger quantity of water. A disinfecter for the isolation hospital.

* 18·08 after deducting 17 deaths in public institutions.

AMBLE.

Medical Officer of Health—W. SMYTH, M.B.

Area, 2,025 acres ; Estimated population, 1897, 4,500. Birth rate, 31·77 ; Death rate, 14·44 ; Zymotic death rate, 0·66. Infant mortality rate (per 1,000 births), 174·82 ; Phthisis death rate, 1·11 ; Death rate from respiratory diseases, 1·55.

The birth rate is nearly the same as that recorded in 1896.

The general death rate is 1·33 per 1,000 higher, while the Zymotic death rate is 0·66, as compared with “nil” in the previous year. The infant mortality rate is also considerably higher.

The Medical Officer of Health is very emphatic in pressing upon his authority to adopt the Infectious Diseases Notification Act, and on this subject says:—“This recommendation has now been before the Council for the past seven years, so, I think, it has received sufficient consideration, and you should now feel justified in acting. I have in previous reports explained to you, and given my reasons, as to why I consider its adoption a matter of importance to the well-being of the community.”

Improvements. The gradual abolition of the old-fashioned privy middens, and the substitution for these of earth and water-closets. A better system of scavenging. Improvements and alterations in the sewers, streets, &c.

Requirements. The adoption of the “Infectious Diseases Notification Act;” an isolation hospital and disinfectory; public mortuary; public urinals; drinking taps and water-troughs. The closing of the culvert in front of the Central Hall.

ASHINGTON.

Medical Officer of Health—ALEXANDER BLAIR, M.B.

Area, 2,766 acres; Estimated population, 1897, 10,000; Birth rate, 44·90; Death rate, 17·80; Zymotic death rate, 2·00; Infant mortality rate (per 1,000 births), 175·94; Phthisis death rate, 1·30; Death rate from respiratory diseases, 2·60.

The birth rate is slightly lower than in 1896. The death rate is nearly the same, but the zymotic death rate is higher by 0·56 per 1,000. The infant mortality rate is a little lower, while the phthisis death rate and the death rate from respiratory diseases are both higher.

This is only the second year of the existence of Ashington as an independent authority, and the Medical Officer of Health has again to refer to the fact that nearly half of the deaths are those of infants under 1 year. In dealing with this question, Dr. Blair attributes a large number of preventible deaths to improper feeding.

The number of cases of infectious disease notified was 36, comprising:—Enteric fever, 20; continued fever, 9; scarlatina, 4; erysipelas, 2; and puerperal fever, 1.

Improvements. An extension of the public lighting system. The planting of trees on, and other improvements to, the public playground. The construction of a branch sewer to Hirst main sewer, thereby doing away with the old *open* sewer in North Seaton Road, which was a serious nuisance. Grates placed under the water taps to carry away the waste water. A new sewer in Front Street, Hirst, and new channelling. The abatement of 185 nuisances reported to the authority.

Requirements. An isolation hospital and disinfectory. Alteration of the market place sewer at Hirst, and the insertion of fire hydrants in the water mains. The framing of bye-laws. The provision of a metal sludge cart.

BEDLINGTONSHIRE.

Medical Officer of Health—D. CARMICHAEL, F.R.C.S., L.R.C.P., Edin.

Area, 8,435 acres; Estimated population, 1897, 18,000; Birth rate, 43·66; Death rate, 17·88; Zymotic death rate, 2·00; Infant mortality rate (per 1,000 births), 143·76; Phthisis death rate, 1·61; Death rate from respiratory diseases, 2·38.

The birth rate is lower than in 1896, when it was recorded at 45·77. The death rate is 1·66 higher than for last year. The zymotic death rate is the

same as in 1896, while the phthisis and respiratory death rates are higher by 0·33 and 0·73 respectively. Last year the infant mortality rate, per 1,000 births, was the same as this year, viz., 143.

There were 16 deaths from diarrhoea, and 9 from measles; 30 cases of typhoid fever were notified in the whole district, resulting in 2 deaths. There were also 2 deaths from scarlet fever, out of 20 cases notified.

Improvements. A sewer has been laid for the drainage of Red Row, Sleekburn; also main sewer and house drains at East Sleekburn. A sewer has been laid near Dr. McLaren's house at Sleekburn. New surface channels have been laid at Choppington Low Pit; also numerous branch drains in different parts of the district. The drinking water has again been analysed, and in their report the analysts say:—"It is not, in their opinion, sufficiently well filtered for use for drinking." The analysis shows that there is less ammonia in the water than when examined in 1895, which, no doubt, is explained by the fact that less sewage is now discharging into the river. Works for the prevention of sewage discharging into the river have been completed in the following localities:—Blagdon, Capheaton, Belsay, Thorniford, Ewart Lodge, Plessey Hall, North Eastern Reformatory, Clifton Farm, Hartford Hall, Bellasis, East Coal Coats, Cheesburn Grange, Eachwick, North Lodge, Havannah Farm, and a scheme has been adopted for Ponteland.

Requirements. The Infectious Diseases (Notification) Act should be adopted. The traps at the water pants should be made so efficient as to prevent the escape of sewer gas. A water closet at Hartford Bridge, which discharges into the river, should be done away with at once. The ashpits at Double Row, Choppington, should be roofed in. The contents of the catch pits, at the lower extremity of the tile drains, should not be emptied into the ashpits (as on former occasions), but should be removed to a depôt, at a distance from the dwelling-houses.

BENWELL AND FENHAM.

Medical Officer of Health—N. HARDCASTLE, M.R.C.S., L.S.A., L.M., L.S.Sc.

Area, 1,367 acres; Estimated population, 1897, 12,000; Birth rate, 40·33; Death rate, 16·75; Zymotic death rate, 1·75; Infant mortality rate (per 1,000 births) 171; Phthisis death rate, 1·16; Death rate from respiratory diseases, 1·91.

The birth rate is very slightly lower than in 1896, when it was 40·48.

The general death rate, and the zymotic death rate are both slightly higher than in 1896, when they were 16·48 and 1·71 respectively.

The infant mortality rate is higher by 19 per 1,000 births than in the previous year.

Improvements. In Malting Row, all the old and defective privies have been removed, and automatic flushing closets substituted, an increased number having been provided—8 closets substituted for 3 privies. The whole of the yard surface has been cemented, and the old offensive privy-middens abolished. Iron pails are to be provided, the contents of which will be removed weekly.

Delaval Road sewer has been enlarged at the bridge. New regulations have been issued to builders as to the ventilation of w.c's, trapping of drains, level of back yards, &c., &c.

Requirements. An isolation hospital and a disinfecter.

BERWICK-UPON-TWEED.

Medical Officer of Health—D. HEAGERTY, L.R.C.P., L.R.C.S., L.M.

Area, 6,507 acres; Estimated population, 1897, 13,330; Birth rate, 29·10; Death rate, *17·17; Zymotic death rate, 2·10; Infant mortality rate (per 1,000 births), 144·33; Phthisis death rate, 1·35; Death rate from respiratory diseases 1·95.

The birth rate is lower than in 1896, when it was recorded at 30·15.

The general death rate is very slightly lower, while the zymotic death rate is higher by ·98 than in 1896. The infant mortality rate is slightly lower than in 1896, but is still high, and the Medical Officer of Health accounts for the fact, partly by the large number of deaths of children from measles (18), and from premature birth (21).

Of the total number of deaths, 67 were of persons over the age of 65 years

58 cases of infectious disease were notified during the year, viz.:—Scarlet fever 18; enteric fever 5; diphtheria 23; erysipelas 10; puerperal fever 1; and membranous croup 1.

With respect to the enteric fever cases, Dr. Heagerty is of opinion that two of them were caused by dirty ashpits, two were due to untrapped drains, and one to polluted water. The bulk of the diphtheria cases, he says, were traced to defective and untrapped drains.

Improvements. Abatement of overcrowding, relaying defective drains, and the provision of traps. The remedying of dampness in houses. Extension of the Spittal drainage, on the completion of which, all cesspools will be abolished, and every house connected with the main sewers. New cement footpaths and channels along Dock View, in Tweedmouth; also cement footpath and carriage way in Ravensdowne, Berwick.

Requirements. Additional houses for the Greens, where there is overcrowding. A disinfecter for use at the isolation hospital.

* 16·20 after deducting 13 deaths in public institutions.

BLYTH SOUTH.

Medical Officer of Health—JOHN CROMIE, L.R.C.P., L.R.C.S.

Area, 1,442 acres; Estimated population 1897, 4,053; Birth rate, 43 67; Death rate, *20·72; Zymotic death rate, 5·67; Infant mortality rate (per 1000 births), 158·19; Phthisis death rate, 1·23; Death rate from respiratory diseases, 2·46.

The birth rate is 3·84 higher than it was last year, when it was recorded at 47·51. The death rate shows a decrease of 0·39 on that for 1896.

Of the total number of deaths (84), 3 were due to drowning and 3 to accidents. During the year, 26 cases of scarlet fever, 5 of diphtheria, 12 of typhoid fever, and 1 of continued fever were notified, while there was quite an epidemic of measles and whooping cough in the South Ward.

The phthisis and respiratory death rates are both lower than recorded last year, when they were 1·75 and 2·76 respectively.

The zymotic death rate shows an increase of 2·91 over that for last year.

The infant mortality rate shows an increase of 15·34 per 1,000 births over last year, the rate for the North Ward being 81·96, and that of the South Ward 327·27, or almost four times as high.

The following table is of great interest:—

BLYTH SOUTH—SUB-DIVIDED.

Locality.	Population.	Number of deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality per 1,000 births.
North Ward	2846	47	16·51	4·21	1·40	0·70	81·96
South Ward	1207	37	30·65	9·11	4·97	2·48	327·27

Improvements. The main service pipe from the water works has been enlarged, thus ensuring a good supply of water even to the highest parts of the town. The adoption of regulations under the Cowsheds, Dairies, and

Milkshops Order. The closing of the open runner at Newsham; the relaying of sewers, and erection of ventilating shafts; lowering level of ground outside houses. Improved scavenging. The sewer in Back Bridge Street has been relaid, and the sewer in Back Stanley Street has been properly ventilated, by manholes at the cross streets. The sewer in Freehold Street has been partially ventilated, and short sections of other sewers have been relaid.

Requirements. A steam disinfecter. The removal of slaughter houses from their proximity to new buildings. The enforcing of bye-laws.

* Six were persons not belonging to the district, the actual death rate being 19·24.

COWPEN.

Medical Officer of Health—R. LAING, L.R.C.P., M.R.C.S.,
Eng., L.M., D.P.H.

Area, 1,737 acres; Estimated population, 1897, 16,000: Birth rate, 42·75; Death rate, *18·06; Zymotic death rate, 3·18; Infant mortality rate (per 1,000 births), 187·13; Phthisis death rate, 1·75; Death rate from respiratory diseases, 2·00.

The birth rate is lower than in 1896, when it was recorded at 50·57. The general death rate is lower by 4·61 than in 1896, while the zymotic death rate is also lower by ·89. The infant mortality rate is higher than in 1896, by 12·13 per 1,000 births.

Several epidemics raged in the district during 1897. There were 86 cases of enteric fever notified, and 11 deaths (more than half of these occurring in Cowpen Village). Measels caused 4 deaths. There were 203 cases of scarlatina notified, resulting in 6 deaths; Bebside Colliery was the centre of the scarlatina epidemic. The Medical Officer is of opinion that it would assist in preventing the spread of this very contagious fever, if carbolic oil were supplied by the district council, to be rubbed into the skin during disquamation, and also if the services of the police were enlisted with a view of preventing premature exposure.

Diarrhoea caused 26 deaths, all being under 5 years of age.

The following interesting table indicates how the death rates from different causes varies in the sub-divisions of this district.

THE URBAN DISTRICT OF COWPEN DIVIDED INTO SUB-DISTRICTS.

Place.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Infant Mortality per 1,000 births.	Phthisis Death rate.
Waterloo ...	4578	73	15·9	2·84	1·73	162·33	0·87
Cowpen Quay ...	4721	74	15·6	1·90	1·90	169·72	1·48
Isabella Pit and } Cowpen Colliery }	1641	34	20·7	4·26	1·21	377·35	1·82
Newsham Freeholds...	789	20	25·3	2·53	1·26	198·21	3·80
Crofton ...	875	17	19·4	3·42	1·14	179·48	3·42
Hodgson's Mill and } Cowpen Square }	703	14	19·9	2·84	1·42	192·30	Nil.
Kitty Brewster and } Cowpen Village }	993	40	40·3	14·09	4·02	216·21	4·02
Bebside Colliery and } Ironworks }	1700	26	15·3	2·35	3·52	109·37	2·35

Improvements. The pump well at Cowpen Village, to which the epidemic of enteric fever was traced, has been closed, and several of the sewers have been relaid.

Requirements. Owing to the sporadic cases of enteric fever being partly due to the silting up of the six-inch drain pipes, the Medical Officer of Health is of opinion that these pipes should be removed and four-inch pipes substituted; also that flushing cisterns should be provided, so as to keep the sewers free from silt, many of the old sewers not being laid with sufficient gradient, and being in an unsatisfactory condition. All open ashpits should be roofed in. The water shed requires careful watching, to see that the supply does not become polluted by means of the town manure, now so largely used by farmers.

A more abundant and satisfactory supply of water is urgently needed in this district. A steam disinfecting apparatus is also required, as it is impossible to ensure safe disinfection of bedding, &c., by the present method. The Medical Officer's report should be printed.

*After deducting 11 deaths of non-residents, the death rate is 17·93.

CRAMLINGTON.

Medical Officer of Health—ROBERT ANDERSON, M.D.

Area, 3,583 acres; Estimated population, 1897, 6,300; Birth rate, 35·71; Death rate, 16·03; Zymotic death rate, 1·90; Infant mortality rate (per 1,000 births), 151; Phthisis death rate, 2·06; Death rate from respiratory diseases, 1·42.

The death rate is slightly lower than in 1896. The birth rate is a little higher; while the infant mortality rate is considerably lower. The zymotic death rate is also much lower.

There were 101 deaths, 22 of these were of persons 65 years of age and upwards.

Requirements. Steam disinfecter. More frequent emptying of the ash-pits in the district, a large number of which are badly constructed and uncovered. More efficient treatment of the sewage, so as to prevent pollution of water courses. Framing of bye-laws.

EARSDON.

Medical Officer of Health—TAYLOR DIXON, M.B., B.S., Durh.

Area, 4,711 acres; Estimated population, 1897, 8,210; Birth rate, 31·66; Death rate, 18·51; Zymotic death rate, 3·41; Infant mortality rate (per 1,000 births), 219; Phthisis death rate, 0·73; Death rate from respiratory diseases, 3·41.

Earsdon is a new district, having only been formed in April 1897, therefore no comparison with former years can be made. The zymotic death rate is high, being only exceeded by one other sanitary district in the administrative county. It is also above the average for England and Wales, which was 2·15 for the year 1897.

The following cases were notified to the Medical Officer of Health, viz.:—Scarlet fever, 31; enteric fever, 4; puerperal fever, 1; and erysipelas, 3. Measles was very prevalent, and caused 7 deaths.

Improvements. Block of houses at Philadelphia, reported as unfit for habitation, have been closed, and are to be put into proper order before being relet. A large number of houses at New York have been, or are being, put into good repair. Several new houses erected, all with necessary sanitary requirements. The irrigation grounds at Earsdon much improved.

Requirements. Bye-laws suitable for an Urban district should be framed. Draw wells at the Grange Cottages and at the dairy at Seaton Terrace require attention to prevent surface pollution. Relaying drains at Shire

Moor Colliery, and provision of traps. Abolition of the open sewer at Murton. Attention to sewer in connection with the irrigation ground at Holywell, which prevents the proper discharge of the sewage; an isolation hospital and disinfecter.

GOSFORTH.

Medical Officer of Health—W. GALBRAITH, L.R.C.P., L.R.C.S.

Area, 1,303 acres; Estimated population 1897, 6,500; Birth rate, 22·76; Death rate, *21·23; Zymotic death rate, 1·07; Infant mortality rate (per 1,000 births), 155·43; Phthisis death rate, 3·38; Death rate from respiratory diseases, 1·69.

The birth rate is 2·31 lower than it was last year, and the death rate 1·39 higher. The phthisis and zymotic death rates, are both slightly higher than last year, while the infant mortality rate shows an increase of 37·87. This considerable increase in the infant mortality rate is commented upon by the Medical Officer of Health in his report; the only reason he can give being the ignorance displayed in colliery villages as to the rearing of children.

Of the total number of deaths (138), 46 occurred in Coxlodge Asylum, and 10 at the Chadwick Memorial Schools; 23 were in children under 1 year of age, and 32 occurred at the age of 65 years and upwards.

There were no deaths from typhoid fever or diphtheria.

Improvements. During the year 138 notices were served to remove insanitary conditions; 74 new houses have been completed, and 50 others are in course of erection. An inspector of nuisances (separate from that of surveyor) has been appointed.

Requirements. An isolation hospital and steam disinfecter. The report of the Medical Officer should be printed.

*12·61 after deducting 56 deaths in public institutions.

HEXHAM.

Medical Officer of Health—D. JACKSON, M.D.

Area, 5,136 acres; Estimated population 1897, 6,000; Birth rate, 29·16; Death rate, †21·16; Zymotic death rate, 3·00; Infant mortality rate (per 1,000 births), 142·85; Phthisis death rate, 1·66; Death rate from respiratory diseases, 1·50.

The birth rate and general death rate are both higher than in 1896. The zymotic death rate is also higher, while the infant mortality rate is lower by 13 per 1,000 births.

The number of cases of infectious diseases notified or ascertained was 214; namely:—Scarlatina, 171; diphtheria, 4; membranous croup, 1; enteric fever, 2; puerperal fever, 2; erysipelas, 5; measles, 11; and whooping cough, 8.

Improvements. A large number of new houses have been erected; 2,133 yards of new sewers laid; 120 yards of sewers relaid; 4,317 yards of water mains laid; and the sanitary arrangements of 41 houses were tested. Seventeen privy middens were abolished, and w.c.'s substituted; 133 nuisances were dealt with.

Requirements. The provision of an isolation hospital and disinfecter; a public slaughter house, model lodging houses, public washhouses, and artisans' dwellings. Some new scheme of sewage disposal, to abate a long standing nuisance on Tyne Green, and to meet the requirements of the Rivers Pollution Prevention Act.

†19·66 without including 9 deaths of persons in public institutions.

MORPETH.

Medical Officer of Health—F. W. SKRIMSHIRE, M.R.C.S., L.S.A.

Area, 323 acres; Estimated population, 1897, 5,446; Birth rate, 32·13; Death rate, 21·11*; Zymotic death rate, 0·36; Infant mortality rate (per 1,000 births), 91·42; Phthisis death rate, 3·30; Death rate from respiratory diseases, 2·57.

The birth rate is nearly the same as in 1896, when it was recorded at 32·22, and the death rate is lower than in 1896 by 0·68. The infant mortality rate is very much lower than in 1896, when it was 185 per 1,000 births, the difference being 93·58. The zymotic and respiratory death rates are both slightly lower, and the phthisis death rate slightly higher than in 1896.

Of the total number of deaths (115), 16 were under 1 year and 25 were 65 and upwards. There were 12 cases of infectious diseases notified, viz.:—Scarlatina, 4; enteric fever, 5; continued fever, 1; and erysipelas, 2. The Medical Officer reports that the town is being supplied with pure water, sufficient for drinking purposes, by means of steam pumping at Tranwell, during the progress of the new waterworks, which are now nearing completion. The council have had the subject of sewerage and river pollution under consideration during the past year.

Improvements. The entries to tenemented property have been better cleansed and whitewashed. The whole of the streets, which had lapsed into bad repair, owing to a dispute with the Earl of Carlisle, have been carefully repaired and rolled. The scavenging has been well carried out, and the footpaths have been improved. A considerable amount of building is being carried on. A common lodging-house has been licensed. 68 nuisances have been satisfactorily dealt with during the year.

Requirements. Isolation hospital, steam disinfectory, and mortuary. A more abundant water supply, and facilities for storing a larger quantity than is at present possible.

*This includes the deaths of 12 strangers in the workhouse; if these were not included, the death rate would be 18·91.

NEWBIGGIN-BY-THE-SEA.

Medical Officer of Health—J. CUNNINGHAM, L.R.C.P., L.R.C.S., L.M.

Area, 337 acres; Estimated population, 1897, 2,402; Birth rate, 31·22; Death rate, 17·06; Zymotic death rate, 1·25; Infant mortality rate (per 1,000 births), 186; Phthisis death rate, 0·83; death rate from respiratory diseases, 2·08.

The birth rate is lower than in 1896, when it was recorded at 37·18. The death rate is considerably higher, being 17·06, as against 10·98 in the former year. The zymotic death rate is higher, and the infant mortality rate is higher than in 1896, by 61 per 1,000 births.

Of the 41 deaths during the year, 14 were those of children under 1 year, and 11 of persons 65 and upwards, leaving only 16 at the other age periods.

There were 3 deaths from zymotic diseases, viz.:—Measles, 1; and diarrhoea, 2.

Improvements. Provision of tubs, by the district council, for the reception of fish offal, and thus preventing the pollution of the beach by the fishermen. Some regulation as to the position in which ash-pits are placed. The cleansing and ventilating of the infant school.

Requirements. Isolation hospital and disinfectory. A more satisfactory water supply is urgently required. Improvements in the sewerage scheme. Adoption of Regulations under the Cowsheds, Dairies, and Milkshops Order, so as to secure a more sanitary condition of cowsheds in particular.

NEWBURN.

Medical Officer of Health—A. W. MESSER, M.B., C.M., B.Sc.

Area, 4,803 acres; Estimated population, 1897, 9,235; Birth rate, 38.98; Death rate, 16.57; Zymotic death rate, 1.73; Infant mortality rate (per 1,000 births), 141.66; Phthisis death rate, 0.75; Death rate from respiratory diseases, 2.38.

The birth and death rates are both higher than they were last year, when they were recorded at 35.37 and 14.39 respectively. The zymotic, phthisis, and respiratory death rates all show a decrease from last year's returns. The infant mortality rate is higher by 18.66 per 1,000 births than it was in 1896.

There are now 1,764 inhabited houses in this district.

Of the 153 deaths, 17 were from the principal zymotic diseases, as follows:—Scarlatina, 1; enteric fever, 5; diphtheria, 2; measles, 1; diarrhoea, 8; there were 51 deaths under 1 year, and 28 at 65 years and upwards. During 1897 there was an outbreak of scarlatina, 67 cases in all having been notified.

The following most interesting table indicates how much the death rates from different causes vary in the several sub-divisions of this district.

URBAN DISTRICT OF NEWBURN SUB-DIVIDED.

Locality.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality per 1,000 births.
Newburn ...	1961	39	19.88	3.56	2.03	2.03	—
Newburn Hall ...	2489	32	12.85	0.40	2.00	Nil.	—
Throckley ...	1623	16	9.85	1.84	1.23	0.61	—
Walbottle ...	1346	30	22.28	0.74	4.45	0.74	—
East Denton ...	1102	23	20.87	2.72	1.81	0.90	—
West Denton...	472	11	23.30	2.11	6.35	Nil.	—
Sugley ...	242	2	8.59	Nil.	Nil.	Nil.	—

Improvements. The sewerage of the district is undergoing quite a revolution, and in the course of a few months the whole of the area presided over by this Council will be most efficiently sewered.

The dwellings of the poorer classes are gradually being improved.

Requirements. An isolation hospital and disinfectory. Adoption of the model bye-laws of the Local Government Board, in so far as they are applicable to the district. The making up of the streets with greater promptitude; new houses being rushed up, and the streets left unpaved and unflagged. Occasional action to be taken under the Food and Drugs Act. The Medical Officer of Health, in his report, states that it would be of great value to have means of recording meteorological data, and of noting any prevalence of epizootic or epiphytic disease, in connection therewith.

ROTHBURY.

Medical Officer of Health—F. BARROW, M.R.C.S., L.S.A.

Area, 948 acres; Estimated population, 1897, 1,200; Birth rate, 32.50; Death rate, *19.16; Zymotic death rate, nil; Infant mortality rate (per 1,000 births), 128; Phthisis death rate, 2.50; Death rate from respiratory diseases, 0.83.

The birth rate shows a great increase (14.04 per 1,000) over that for 1896, when it was 18.46.

The death rate is higher by 7·62 than in 1896, when it was recorded at 11·54.

There were no deaths from zymotic diseases. Of the total number of deaths (23), 3 occurred in persons over 70 years of age, and 2 over 80. Three deaths were caused by injuries.

Improvements. The preparation of bye-laws, which are reported to be “under consideration,” prevention of the deposit of ashes at the waterside, formerly so frequent; a dépôt has been provided, and proper rules have been framed in connection therewith. Adoption of the Infectious Diseases Notification Act. The abatement of many nuisances. Improvements in drainage.

Requirements. The completion and enforcing of bye-laws; an isolation hospital and disinfectory.

*This includes 1 stranger. 15·83 after deducting 3 deaths by accidents.

SEGHILL.

Medical Officer of Health—R. ANDERSON, M.D.

Area, 1,425 acres; Estimated population, 1897, 2,300; Birth rate, 22·17; Death rate, 12·17; Zymotic death rate, nil; Infant mortality rate (per 1,000 births), 156·86; Phthisis death rate, 0·43; Death rate from respiratory diseases, 0·86.

The birth rate shows a decrease of 6·96, as compared with 1896, when it was recorded at 29·13. The death rate also shows a decrease of 4·35 over that for 1896, which was 16·52.

Of the 28 deaths during the year, 8 were of children under 1 year, and 6 were of persons 65 years and upwards. There were 5 deaths from injuries.

Improvements. The removal of large ashpits from various parts of the village, and the substitution of proper ash privies, is now being proceeded with.

Requirements. The framing of bye-laws. An isolation hospital and disinfectory. Efficient treatment of sewage, which now grossly pollutes the neighbouring burns.

TYNEMOUTH.

Medical Officer of Health—J. E. GOFTON, L.R.C.P., M.R.C.S.

Area, 4,303 acres; Estimated population, 1897, 51,148; Birth rate, 29·54; Death rate, *18·44; Zymotic death rate, 2·40; Infant mortality rate (per 1,000 births), 166; Phthisis death rate, 1·87; Death rate from respiratory diseases, 2·24.

The birth rate is slightly lower than last year, and the death rate is 1·77 higher.

The infant mortality rate is higher than in 1896, when it was 130. The phthisis and respiratory death rates are both higher than in 1896, when they were 1·40 and 2·01 respectively.

There were 3 cases of smallpox notified, but no trace as to the source of infection could be discovered. Among the infectious cases notified were:—Typhoid fever, 30; scarlet fever, 81; and diphtheria, 13.

Diarrhoea caused 65 deaths, an increase of 53 on the year 1896.

There were 943 deaths distributed as follows:—

Add Deaths in

Localities.	Number of Deaths.	Workhouse	Infirmary.	County Asylum.	Deduct deaths among visitors.	Corrected number of deaths.
Tynemouth Township ...	406	28	4	12	3	447
Tynemouth Village ...	61	—	—	—	3	58
Cullercoats Township ...	30	1	—	—	—	31
North Shields Township ...	107	26	2	3	1	137
Chirton Township ...	220	12	2	4	4	234
Preston Township ...	33	2	1	—	0	36
Borough of Tynemouth ...	857	69	9	19	11	943

The following interesting table shows how the death rates from different causes vary, in the sub-divisions of this district:—

Localities.	Population.	Number of Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality per 1000 births.
Tynemouth Township	21217	406	19·14	2·87	2·92	2·16	182
Tynemouth Village ...	3923	61	15·54	0·50	0·76	1·78	49
Cullercoats Township	2025	30	14·81	1·97	1·48	0·49	202
North Shields do.	5575	107	19·19	2·86	2·86	1·79	203
Chirton do.	14694	220	14·97	2·24	1·36	1·02	146
Preston do.	3107	33	10·62	2·25	1·28	1·60	135
Workhouse ...	583	107	185·53	Nil.	12·00	18·86	Nil.
Infirmary ...	24	16	666·66	Nil.	62·50	50·00	—

Improvements. There has been great improvement in the general condition of the seamen's and common lodging houses. The erection of houses on polluted ground has been prevented, until excavation and removal of the polluted soil has been effected. The water supply, which has for so long been an anxiety and cause of trouble, is likely soon to be remedied. A bill is in progress, having for its object powers to obtain water from the river Font.

Requirements. The Medical Officer again calls attention to the urgent need of increased hospital accommodation, adding that all the requests for the use of the hospital could not be granted, and that the population is increasing more rapidly than for many years; with more people there will probably be more sickness, and greater need for increased hospital accommodation.

*This includes 19 deaths at the county asylum, which, if deducted, make the rate 18·06.

WALKER.

Medical Officer of Health—H. FRAZER-HURST, L.R.C.P., L.R.C.S., L.M.

Area, 1,203 acres; Estimated population, 1897, 12,800; Birth rate, 37·42; Death rate, *18·98; Zymotic death rate, †3·20; Infant mortality rate (per 1,000 births), ‡160·75; Phthisis death rate, 2·26; Death rate from respiratory diseases, 2·73.

The birth rate and general death rate are both higher than in 1896, when they were 36·40 and 18·08 respectively. The zymotic death rate is slightly lower, while the infant mortality rate is higher.

The number of cases of infectious diseases notified were 119, as against 18 during the previous year. The diseases were as follows:—Scarlatina, 85; diphtheria, 5; enteric fever, 9; continued fever, 1; puerperal fever, 4; croup, 2; and erysipelas, 13.

Whooping cough and measles were both very prevalent.

Improvements. Several new houses have been built during the year, and the Medical Officer of Health reports that they are mostly of a superior construction to those previously built.

Requirements. The removal of the existing large privy middens. The remedying of structural defects in Church Street, Back Victoria Street, referred to in the report of the Medical Officer of Health for 1896. The demolition of the Jane Pit Cottages. The construction of a proper road to the cottages in Diamond Row, also referred to in the previous year's report. In bad weather these houses are almost inaccessible. The provision of two additional urinals near the large works at Low Walker.

*16·64, without including 30 deaths in the "City" hospital.

+1·17, without including 26 deaths in the "City" hospital.

‡156·57, without including 2 deaths in the "City" hospital.

WALLSEND.

Medical Officer of Health—THOMAS WILSON, L.R.C.P., M.R.C.S.

Area, 1,202 acres; Estimated population, 1897, 16,000; Birth rate, 32·75; Death rate, §12·62; Zymotic death rate, 1·06; Infant mortality rate (per 1,000 births), 143·13; Phthisis death rate, 1·00; Death rate from respiratory diseases, 1·87.

The birth rate is rather higher than in 1896; and the death rate is almost the same as in that year. The zymotic death rate is also lower, but the infant mortality rate is higher by 23 per 1,000 births.

With respect to the deaths of young children, the Medical Officer of Health says:—"Between the ages of 1 and 5 we have 108 deaths, more than one-half of the whole number for the year. Out of the 108 deaths, we have 14 from premature birth, 15 from bronchitis, and 12 from other constitutional diseases. This leaves 61 deaths from debility, convulsions, gastro-enteritis, and marasmus. If proper care were taken in the rearing of infants, these latter diseases should not be."

The following diseases were notified during the year:—Typhoid fever, 9; membranous croup, 1; diphtheria, 5; continued fever, 1; erysipelas, 15; and scarlet fever, 55.

Improvements. The removal of 17 old ashpits, and the substitution therefor of 21 box closets. The abatement of 141 nuisances, in the form of defective ashpits and box closets, choked drains, defective sink waste pipes, re-cementing of back yards, alterations to filthy privies, &c.

Requirements. A better set of bye-laws. A better class of dwelling houses, and a steam disinfecter.

§12·43 without including the deaths of 3 persons not belonging to the district.

WEETSLADE.

Medical Officer of Health—ALLAN WALKER, M.B., C.M.

Area, 2,257 acres. Estimated population, 1897, 5,000; Birth rate, 46·20; Death rate, 18·20; Zymotic death rate, 0·80; Infant mortality rate (per 1,000 births), 151; Phthisis death rate, 0·80; Death rate from respiratory diseases, 3·80.

The birth rate is 6·20 higher than last year. The death rate is lower by 2·00 per 1,000. The zymotic rate is also lower, being 0·80, as compared with 4·40 for 1896, a decrease of 3·60 per 1,000. The infant mortality rate is lower by 39 per 1,000 births, than in 1896. 28 cases of infectious diseases were notified, viz.:—Scarlet fever, 20; erysipelas, 6; diphtheria, 1; enteric fever, 1.

Improvements. Levelling the footpaths and channels in the rows at Dudley Colliery, and so enabling the surface water to be drained off. New spouting to houses at Annitsford, and other improvements to many of the old houses. The erection of a great number of new buildings. Improvements to old houses at Seaton Burn, and the erection of a few new ones. Adoption of the Act for the inspection of dairies, cowsheds, &c.

Requirements. A steam disinfecter. Framing of bye-laws suitable for an Urban district; the levelling of the roads between the rows at Seaton Burn; and provision for draining off surface water. Similar improvements needed at Wideopen and Hazelrigg Square. Improvement of the drainage in connection with a cowbyre between Seaton Burn and Dudley; also of the outlet sewage pipe at the Seaton Burn irrigation ground. The conveyance of the proper amount of sewage to the Annitsford irrigation ground. Improvement in the drainage of Blagdon Terrace. A new water supply for Seaton Burn.

WHITLEY AND MONKSEATON.

Medical Officer of Health—P. ALEXANDER, L.R.C.P., L.R.C.S., L.M.

Area, 1,540 acres; Estimated population, 1897, 5,755; Birth rate, 17·06; Death rate, *10·25; Zymotic death rate, 0·86; Infant mortality rate (per 1,000 births), 112·24; Phthisis death rate, 1·04; Death rate from respiratory diseases, 1·21.

The birth rate is higher than in 1896, when it was recorded at 16·44; and the death rate is also higher by 1·43 per 1,000. The zymotic death rate is 0·46 higher than it was in 1896; the phthisis death rate is also slightly higher, and the respiratory death rate slightly lower than in the previous year. The infant mortality rate is very much higher than in 1896, the difference being 39·24 per 1,000 births. Of the total number of deaths recorded (59), 14 were of persons over 65 years of age, and of an average of 75·6 years. There were 27 notifications of infectious diseases during the year.

Improvements. Newly laid defective drains were made sound, under the supervision of the sanitary inspector. Great improvement has been made in the lighting of the streets, and in the paving of back streets.

Requirements. Isolation hospital and disinfecter. A more copious and more thoroughly filtered water supply. The Medical Officer reports that the water supply was intermittent during the summer months, but otherwise satisfactory as regards quantity; there were many complaints as to the quality of the water, which was often found turbid, full of sediment, and of a peculiar odour.

*Twelve of the deaths were those of temporary residents, thus reducing the death rate to 8·1 per 1,000.

WILLINGTON QUAY.

Medical Officer of Health—C. T. U. BABST, L.R.C.P., L.R.C.S.

Area, 336 acres; Estimated population, 1897, 8,200; Birth rate, 32·92; Death rate, 17·07; Zymotic death rate, 1·70; Infant mortality rate (per 1,000 births), 148; Phthisis death rate, 1·9; Death rate from respiratory diseases, 2·56.

The birth rate is higher than in 1896 by 3·11 per 1,000. The general death rate and zymotic death rate are slightly lower; the infant mortality rate is also lower.

There were 46 cases of scarlatina notified during the year, 17 of which were treated in the isolation hospital. Measles were prevalent in January, February, March, and April, but the remainder of the year was comparatively free from that disease. There was 1 case of enteric fever and 1 of diphtheria. Whooping cough was prevalent, and so were diarrhoea and influenza.

Improvements. Construction of a new sewer, by which pollution of the Willington Gut by this authority, has ceased. Conversion of a considerable number of ashpits into small ash closets in Headlam Street, Hodgson Street, and Philipson Street. The re-building of the Vulcan Inn, Stephenson Street. The abatement of several nuisances in and about dwelling houses.

Requirements. A more systematic arrangement in emptying ashpits, so as to avoid unnecessary soiling of the streets. The construction of a quay wall opposite Keelman's Row, a new roof for the block of old houses at the top of Ravensworth Street. The removal of defective ashpits in Western Road. Repairs to yards, and the provision of more closets in Nelson Street and Potter Street. The adoption of w.c.'s at Palmer's Terrace, Alma Steps, the Ballast Hill, and in Stephenson Street. Further improvements in Chapel Street, Brunton Street, Main Street, and Dock Street; the rooms are nearly all damp and insufficiently lighted; the floors and ceilings of many are defective, and in some there is no through ventilation. Some arrangement should be made with the Tynemouth Rural District Council to abate the nuisance caused by this authority polluting Willington Cut, by crude sewage from Willington parish. (See remarks under *Requirements*, Tynemouth Rural No. 2.)

RURAL DISTRICTS.

ALNWICK.

Medical Officer of Health—SCOTT PURVES, M.D.

Area, 89,950 acres; Estimated Population, 1897, 12,176; Birth rate, 26·69; Death rate, 13·71; Zymotic death rate, 0·41.

Infant mortality rate (per 1,000 births), 132·30.

Phthisis death rate, 1·80; death rate from respiratory diseases, 0·99.

The birth rate is slightly lower than in 1896. The general death rate, and the zymotic death rate are also lower than in 1896, when they were 14·86 and 1·06 respectively. The infant mortality rate is higher.

The district shows a marked improvement with respect to infectious diseases, inasmuch as only 33 cases were notified, as compared with 147 in 1896. The cases notified were as follows:—Scarlatina 10 enteric fever 7, erysipelas 12, diphtheria 2, puerperal fever 1, and relapsing fever 1.

Appended is a table showing the different death rates for each of the three localities into which the Medical Officer of Health divides his district:—

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality per 1000 births.
Warkworth	6229	96	15·41	0·32	1·60	1·92	144
Embleton	5257	61	11·60	0·57	0·19	1·71	90
Alnwick	690	10	14·49	Nil.	1·45	1·45	230

Improvements. Imperfectly laid drains at Dunstan Square relaid. The supply pipes to the Lesbury reservoir taken up and relaid. Relaying of a portion of the watermain to Alnmouth. Enclosure of a well at Bannamoore to

prevent surface pollution. A water supply from Alnmouth to Bilton farm house. New water supply at Broxfield. Improvements in the Craster water works, ensuring a constant supply. Reconstruction of the water works at Eglington, resulting in the village being "furnished with the most complete water supply of any village of its size in the district." Protection of the water supply at Glanton Mile end, by the construction of a tank and the provision of a pump. Increased water supply at Hauxley, Togston, and Broomhill Colliery. Improvements in the drainage at the following places, viz.:—Eglington Cock Hall, Embleton Cemetery, Felton, Newton-on-the-Moor, Powburn, Shilbottle, Sturton Grange farm, Togston, Broomhill, Togston East farm, and Warkworth. The abatement of many nuisances, including the removal of many old privies and middens, and the provision of others of a more approved class.

Requirements. A more convenient water supply for Edlington and the immediate neighbourhood. Adequate supply of water for the following farms and cottages, namely:—Abberwick, Acklington High Park, Birling North Field, Broomhill Cottage, Dean Moor, Glanton North Field, Middle Cawledge Park, Shipley Lane, and West Cawledge Park. An isolation hospital and disinfecter.

BELFORD.

Medical Officer of Health—J. G. MACASKIE, L.R.C.P., L.R.C.S., D.P.H.

Area 38,586 acres; Estimated population, 1897, 4,797; Birth rate 27·30; Death rate 17·71; Zymotic death rate 0·41; Infant mortality rate (per 1,000 births) 114; Phthisis death rate 1·25; Death rate from respiratory diseases 1·66.

The birth rate is practically the same as in 1896. The general death rate is 2·46 per 1,000 higher, while the zymotic death rate is lower. The infant mortality rate is almost the same.

The number of cases of infectious disease notified was 147, distributed as follows:—Scarlet fever 121; Erysipelas 15; Enteric fever 5; Diphtheria 5; and Croup 1. The number of cases notified in 1896 was 187.

Of the total deaths (85), 15 were of children over 1 year, and 38 of persons over 65 years of age. The aggregate number of these two age periods accounting for considerably more than half the total number of deaths.

There were only two deaths from zymotic diseases, viz.:—1 from enteric fever and one from measles.

Improvements. Additional and improved privy accommodation, and drainage in the rear of the west side of High Street. Several defective houses at Beadenell provided with new roofs. Farm cottages at Burton provided with new drains and pigsties. Farm cottages at Easington Grange provided with new drains. At North Sunderland, a new sewer provided for cottages in North Back Lane, previously without drainage. New drainage at four farms previously discharging on to highway. New gullies provided for Bamburgh Castle cottages. Additional privy accommodation at Sea Houses. New drains at Swinhoe, Spindleston, the Cottage Inn Warenford, and Springhill. At Tyneley, three dilapidated cottages, belonging to Sir John Haggerston, pulled down and rebuilt.

Requirements. An isolation hospital. A modern disinfecter. More frequent attention to ash-pits.

BELLINGHAM.

Medical Officer of Health—J. P. ELLIOT, L.R.C.P., L.R.C.S., L.M.

Area 238,231 acres; Estimated population, 1897, 6,000; Birth rate 22·66; Death rate 17·66; Zymotic death rate 0·33; Infant mortality rate (per 1000 births) 95·58; Phthisis death rate 2·16; Death rate from respiratory diseases 2·66

The birth and general death rates are both slightly higher than in 1896. The zymotic death rate is lower, being only half. The infant mortality rate is lower by 30·24 per thousand births than in 1896.

There were 106 deaths, of which 13 were of children under 1 year, and 35 of persons of 65 years and upwards. The district was very free from infectious diseases, there having been only 9 cases notified. There were 2 deaths from zymotic diseases, viz.:—One from enteric fever and 1 from measles.

BELLINGHAM RURAL DISTRICT (SUB-DIVIDED).

Locality.	Population	No. of Deaths.	Death rate.	Zymotic Death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality per 1000 births.
Bellingham	1319	23*	17·43	0·75	2·27	1·51	150
Corsenside	672	18	26·78	—	2·93	4·46	294
Wark	782	12	15·34	—	—	1·28	—
Throckrington	177	2	11·29	—	—	—	—
Kirkwhelpington	374	5	13·36	—	8·02	—	111
Birtley	438	8	18·26	—	2·28	2·28	181
Elsdon	885	16	18·07	1·13	3·38	4·51	76
Falstone	641	21	32·76	1·56	4·67	3·12	—
Thorneyburn	267	—	—	—	—	—	—
Greystead	255	1	3·92	—	—	—	—
Kirkharle	190	—	—	—	5·26	—	—

*This includes five deaths in workhouse.

The above table is of considerable interest, as it shows for the 11 sub-divisions of this sanitary district how greatly the death rate from different causes varies. It is also interesting to note, from a similar sub-division, that of the 9 cases of infectious disease, 8 were notified from Bellingham, though the population of Elsdon is two-thirds that of Bellingham, and the population of 3 other sub-divisions of this sanitary district average half that of Bellingham.

Improvements. The water supply has been considerably increased for Bellingham, and a public tip provided for refuse. Six dilapidated houses, unfit for human habitation, have been closed. A new system of drainage and sewerage has been put in at Riding, and several sanitary improvements have been carried out at Donkeywood and Stannersburn. At East and West Woodburn, improvements have been made in sewers and drains; ashpits and privies have been removed from unsuitable positions and re-built in more suitable situations; additional conveniences have been built for several farmhouses and cottages. An attempt has been made to remedy damp conditions in several localities by spouting and repairs to roofs.

Requirements. As regards water, East and West Woodburn and Otterburn are still in very urgent need of a satisfactory supply. The very scanty supply for all three places, and its dangerously polluted condition, at Otterburn in particular, have repeatedly been commented upon by the District and County Medical Officers of Health. The only drinking water for about 30 houses, hotel and posting house, slaughter house, &c., is from a shallow well close to the burn, and from a tap, supplied by surface water, both of which fail after periods of prolonged drought. Water is procured from the well by dipping in a pail (the outside of which may be clean or foul) and similarly from the burn, which latter receives crude sewage a few yards above the well, and nearly all the solid and liquid refuse from the village. For washing purposes water is procured from the sewage-polluted burn. The hotel, at which many

visitors stay, possesses a W.C., which is dependent for its water upon a soft water tank in the roof. The dangerous condition of this W.C. inside a house during a period of drought, may be readily imagined. There is a copious and pure water supply within reasonable distance, and at such an elevation that the water would flow by gravitation to the whole village, and rise to the level of the top of any house. East and West Woodburn are nearly in the same condition as Otterburn, the water supply being inadequate and liable to pollution. Also in the Parish of Wark, the water supply is inadequate, it has to be carried long distances, and appears liable to surface pollution, especially after rain. As regards sewage, there is gross pollution of the river at Bellingham by crude sewage, and by heaps of manure and refuse of all kinds, being placed in close proximity to the water's edge. The sewerage disposal works do not appear to receive that continuous amount of attention which they require. The Otterburn, as before stated, receives practically all the sewage and refuse of the village of Otterburn. All these matters demand the immediate and careful attention of the District Council. Scavenging more especially for the town of Bellingham should be undertaken by the Sanitary Authority. An isolation hospital and disinfectors are required for this district.

CASTLE WARD.

Medical Officer of Health, G. H. FITZGERALD, M.D.

Area, 85,219 acres; Estimated population, 1897, 9,490; Birth rate, 24·97; Death rate, 17·70; Zymotic death rate, 1·05; Infant mortality (per 1,000 births) 122·36; Phthisis death rate, 0·94; Death rate from respiratory diseases, 3·15.

The birth rate is slightly lower than was recorded in 1896, when it was 25·90; and the death rate is considerably higher, as in 1896 it was recorded at 11·90, shewing an increase of 5·80. The zymotic death rate has also slightly increased; last year it was recorded at 0·52. The phthisis death rate shows a slight decrease on that of last year, when it was 1·14.

The infant mortality rate is higher than in 1896 by 25 per 1,000 births.

Of the total number of deaths (168) 36 were under 5 years, and 61 were 65 years and over. There were 10 deaths from zymotic diseases. During the last six years the number of cases of infectious disease reported to the medical officer have been as follows:—1892, 225; 1893, 70; 1894, 60; 1895, 43; 1896, 43; 1897, 24. These figures shew a steady decrease, which is most satisfactory.

Locality.	Deaths.	Death Rate.	Zymotic Death Rate.	Respiratory Death Rate.	Phthisis Death Rate.	Infant Mortality.	Population.
Heddon-on-the-Wall...	15	1·14	Nil.	1·51	Nil.	Number of births for each sub-division not given, therefore rate cannot be calculated.	1,317
Newburn	4	6·51	Nil.	Nil.	Nil.		614
Stamfordham	25	30·97	1·23	3·71	2·47		807
Matfen and Ovingham.	7	12·96	1·85	Nil.	Nil.		540
Kirkwhelpington and Kirkheaton...	6	43·17	Nil.	7·19	Nil.		139
Gosforth (North) ...	20	13·62	0·69	1·36	1·36		1,468
Stannington	14	13·80	0·98	2·95	Nil.		1,014
Whalton and Bolam...	18	16·08	0·89	3·57	Nil.		1,119
Ponteland and Dinmington	48	19·87	2·07	5·38	1·24		2,415
Workhouse	11	203·70	Nil.	37·07	37·03		54

In consequence of the Medical Officer of Health having divided the sanitary district into localities, it has been possible to work out the above interesting and instructive table. A most admirable report by the sanitary inspector is appended, setting out under the headings of (1) work carried out (a) sanitary work (b) water supply (c) unhealthy dwellings; (2) work receiving attention (3) dairies and cowsheds, a host of interesting and valuable information, as to what has been accomplished, and what is required, in every village and township calling for attention. The sanitary improvements effected in this large district are so numerous that they can only be referred to in a very cursory manner. Greatly improved water supplies have been secured for Dalton village, Thorneford, World's End, West Newham, Ogle South Farm, and boring operations carried out on the Milbourne estate. More than 20 houses, unfit for human habitation, have been closed. Special arrangements have been made for disposing of liquid sewage, by turning it on to land, instead of as formerly into water-courses, at the following places:—Callerton Lane Head Cottages, Dalton Mill Dissington, Eland Hall farms (2), Eland Hall and Kenton village; at Fenwick Shield the sewage is filtered at the outlet of the sewer. An enquiry has been held by the Local Government Board, in consequence of an application from the district council for borrowing powers, in order to properly sewer the village of Ponteland, and a provisional agreement has been concluded, for a lease of the land required, for the purposes of the sewage disposal scheme. Many improvements have been carried out in the flooring, drainage, and ventilation of cowsheds, dairies, and stables, notably at Three Mile Bridge dairy farm, also at North Brunton, the Beresford Arms (Whalton village), and Three Tuns Inn (Heddon-on-the-Wall); while new drains have been laid, or socketed drains, with trapped gullies and ventilating shafts, substituted for old open jointed drains, at Middle Part (Belsay), Kirkheaton, Naisbett farm, Blue Bell cottages (Capheaton), Heddon House, Heddon-on-the-Wall, Close House, Kirkheaton, West Newham, Ogle, Kirkley, Matfen Burnside, Wallhouses, and Matfen village. Out-door conveniences have been provided in several places where needed, and others have been removed to a greater distance from houses. Attempts have been made in various places, to remedy dampness in houses, by spouting, and lowering the ground line outside.

Requirements. A copious and pure water supply is urgently needed for the village of Ponteland, where the water, derived from wells, is liable to frequent surface pollution. This is a dangerous condition, which may at any time bring about serious results, without any warning. A water supply is also needed for Caldcoats dairy farm, and for Berwick Hill (Mrs. Lamb's). At the latter place, the well is within six feet of the pigstye and ashpit. The water has been analysed, and found dangerously polluted. An efficient sewage disposal scheme is also required for Ponteland, from which place the sewage is discharged into the Pont, and also for Stamfordham and Hawkwell. Regulations under the Cowsheds, Dairies, and Milkshops Order should be adopted. A closing order is required for eleven houses in Shiney row, Kenton. These houses consist for the most part of one room each, and an uninhabitable attic in the roof. They are old, dilapidated, damp, practically unspouted, and unfit for human habitation; the water supply is distant nearly half a mile. An isolation hospital and disinfectors are required for this large district.

GLENDALE.

Medical Officer of Health—ROBERT WALKER, M.D.

Area 147,698 acres; Estimated population, 1897, 10,158; Birth rate, 18.11; Death rate, 12.50; Zymotic death rate, 0.09; Infant mortality (per 1,000 births), 76.08; Phthisis death rate, 0.98; Death rate from respiratory diseases, 1.08.

The birth rate is 4.83 lower than in 1896, and the death rate 0.69 higher. The zymotic and phthisis death rates are slightly lower than last year, while the respiratory death rate is slightly higher. The infant mortality rate (per

1,000 births) is 7·41 higher than in 1896. There was only 1 death from zymotic disease in the past year. Of the total number of deaths (127), 14 occurred under 1 year, and 57 were in persons who had reached 65 years and upwards.

The Medical Officer of Health has sub-divided the district into (1) Wooler, (2) Ford, (3) Union Workhouse. In the subjoined table the death rates for each sub-division are shown. It is worthy of note that the infant mortality rate for Wooler, is nearly double that of the other portion of the district.

Locality.	Population.	Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant Mortality rate per 1000 births.
Wooler	5100	68	13·33	Nil.	1·56	1·17	97
Ford	5033	59	1·72	0·19	0·79	0·79	54
Union Workhouse ...	25	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.

The Medical Officer of Health lays stress upon the necessity for stricter regulations, as regards the construction of cowsheds, and upon the dangers incurred, owing to greater cleanliness not being maintained, of the cow, the milker's hands, and the cowsheds; he also emphasises the importance of milk being stored under proper conditions. The truth of all he says has long been recognised, and Dr. Walker is in a position to speak with considerable authority on these subjects, for in his district, are to be found, both cowsheds and dairies (so called) of the very worst possible description. The Medical Officer also draws attention to the scarcity of houses for the working classes, leading to over-crowding, and to the desirability of providing a public slaughter-house, an arrangement which so greatly contributes to the proper inspection of meat.

Improvements. New water supplies have been provided at Heatherslaw, Floddon Lodge, Lint Haugh, Ingram, East and West Horton, and Way to Wooler; arrangements have been made for new water supplies at Fowberry Moor, Coldmartin, Shidlaw, Lilburn Hill, and South Steads. Considerable improvements in, and extensions of, sewers and drains have been carried out at Humbleton, Milfield, Ford, Etal, Downham farm house, Holborn, Wark, Reaveley Greenses, Westwood Hill, East Horton, and Wooperton Lodge. Improvements to cottage property, chiefly in the direction of spouting and providing out offices, have been carried out at Coupland, Marley Knowe, Bewick Bridge, New Bewick, Wark Common, Reaveley, Bowsden, Middleton Dene, Whitehall, Trowupburn, and Painston. It has been determined to carry out extensive alterations in the cottages on the Fowberry estate, and also in those at Hay farm, and Ford Hill.

This district council has set a most praiseworthy example, by establishing a district nurse at Wooler. This step is likely to prove an immense boon in more ways than one, as not only is a trained nurse a very real help in times of illness, but she has opportunities of disseminating knowledge, on the feeding and rearing of children, and other most important everyday subjects, which otherwise might not occur. Many a mother, who thinks that medical men know nothing about children, will take a suggestion (if offered very unostentatiously) from a trained nurse.

Requirements. Though the district council have taken a step in the right direction, by arranging for the periodical removal of house and other refuse, instead of leaving this work to the tender mercies of the neighbouring farmer, they seem loth to abolish the large, badly constructed, uncovered privy ash-pits, which should rarely, if ever, be allowed in any situation, and never in

a place like Wooler. They are a constant nuisance, an eyesore, and a continual danger to health. Some have been abolished, but many remain. Regulations under the Cowsheds, Dairies, and Milkshops Order, are very urgently required in this district. A small isolation hospital and disinfectory are also needed.

HALTWHISTLE.

Medical Officer of Health—R. BOUSTEAD, L.R.C.P., L.R.C.S., D.P.H., L.M.

Area, 96,333 acres ; Estimated population, 1897, 8,166 ; Birth rate, 28·65 ; Death rate, 13·71 ; Zymotic death rate, 1·71 ; Infant mortality rate (per 1,000 births), 102·56 ; Phthisis death rate, 1·34 ; Death rate from respiratory diseases, 1·34.

The birth rate, death rate, and respiratory death rate are all slightly lower than they were in 1896, when they were 28·76, 14·13, and 2·12 respectively. The zymotic and phthisis death rates are both slightly higher than they were last year. The infant mortality rate (per 1,000 births) is considerably higher than that recorded in 1896, the difference being 15·61.

There were 14 deaths from zymotic diseases, classified as follows :—Scarlatina 1 ; membranous croup 1 ; measles 7 ; and diarrhoea 5.

The Medical Officer reports that the water supply for the town of Haltwhistle is plentiful, and quite free from any pollution.

Improvements. In various smaller isolated situations the water supplies have been improved, and a scheme for the Gilsland district is under consideration. Ashpits and privies are getting better attention, the people themselves doing more in this direction than formerly. Thirty-four new houses have been built during the year, and one has been condemned as unfit for human habitation. One hundred and ninety-five nuisances have been remedied during the year, but the inspector has not appended a report giving particulars. The Medical Officer reports that “the district generally is in a very satisfactory state, and the improvements are marked.” Some valuable tables are given by the Medical Officer of Health, setting out the causes of all deaths, and the age period at which each death occurred ; also birth statistics, and tables showing the parishes from which cases of infectious disease were notified, and the ages of the patients attacked.

Requirements. The Medical Officer’s report should be printed. An isolation hospital and disinfectory are needed.

HEXHAM.

Medical Officer of Health—R. BOUSTEAD, L.R.C.P., L.R.C.S., D.P.H., L.M.

Area 200,977 acres ; Estimated population 28,150 ; Birth rate 27·92 ; Death rate 14·28 ; Zymotic death rate 0·64 ; Infant mortality rate (per 1,000 births) 124·68 ; Phthisis death rate 1·13 ; Death rate from respiratory diseases, 1·49.

The birth and death rates are both higher than last year, when they were recorded at 26·37, and 13·92 respectively. The phthisis and respiratory death rates are both lower than they were in 1896, by 0·59 and 0·40 respectively. The infant mortality rate is higher than last year, when it was recorded at 99 ; the difference being 25·68. There were 282 cases of infectious disease reported during 1897, this being an increase of 103 over the previous year, and is due altogether to the greater number of scarlet fever cases, 212 cases having been notified.

The schools at Haydon Bridge, Wylam, Eltringham, Low Prudhoe, and Deanraw were closed on account of the scarlet fever epidemic, which, fortunately, was of a mild type, and caused only 4 deaths.

There were 17 cases of diphtheria, and 11 of typhoid fever during 1897. Whooping cough was very prevalent. The Medical Officer reports that parents seem to treat this disease far too lightly, and never use any preventive means. There were 42 cases of erysipelas, being an increase of 14 over the number occurring last year.

The Medical Officer of Health divides the district into four localities, viz.:—Allendale, Bywell, Chollerton, and Hexham, the number of deaths occurring in each being 91, 181, 74, and 56, respectively.

Improvements. Drains were tested and found defective, at houses where typhoid fever had broken out; these were remedied, and the water, which was found liable to contamination, was replaced by a fresh supply. Nineteen samples of water were examined, and in all cases where there was reason to suspect pollution, careful investigations were made, and the necessary precautions taken. Allendale Town has been provided with a plentiful supply of good and pure water; a new supply has also been laid on to the Low Hall, and Whinnetley farms. A new water supply has been provided for the Oak Wood Hermitage and Bridge End Brewery estates, and a covered-in reservoir, capable of holding 50,000 gallons, has been built at Oak Wood. The water supply at Slaley has been improved, and is now considered ample. Many additional precautions have been taken, so as to remedy defects in the surroundings of small and isolated supplies. During the year 50 new houses have been built, and 8 old insanitary houses closed.

Requirements. More artisans' houses. Better water supply in some districts. An isolation hospital and disinfectors are urgently needed.

MORPETH.

Medical Officer of Health—W. CLARKSON, L.R.C.P., L.F.P.S.

Area, 74,750 acres; Estimated Population, 15,786; Birth rate, 24·70; Death rate, 10·88; Zymotic death rate, 0·82; Infant mortality rate (per 1,000 births), 143; Phthisis death rate, 0·95; Death rate from respiratory diseases, 0·63.

The birth and death rates are both lower than in 1896, when they were recorded at 26·87 and 13·27 respectively; the zymotic, phthisis, and respiratory death rates are also lower. The infant mortality rate (per 1,000 births) is higher than in 1896, by 10. Of the 390 births, 211 were males, and 179 females; and of the 172 deaths, 98 were males, and 74 females; 56 of these deaths occurred in children under one year of age, and 49 were of 65 years and upwards. The Medical Officer suggests, in his report, as a means of reducing infant mortality, "that a coroner's inquest be held on all deaths attributed to debility from birth, or premature birth." Of the 13 deaths from zymotic diseases, 2 were from typhoid fever, 6 from measles, 1 from whooping cough, and 4 from diarrhoea. The Medical Officer divides this district into (1) agricultural, and (2) colliery. In the following table the death rates are calculated for each of the above sub-divisions:—

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Phthisis death rate.	Respiratory death rate.	Infant mortality rate per 1000 births.
Colliery Locality ...	12,197	130	10·65	0·57	0·90	0·73	137
Agricultural Locality	3,589	42	11·70	1·67	1·11	0·25	174

Improvements. A new water supply has been procured for several houses at North Seaton village; also for Whitfield farm, Earsdon village, Ulgham Cockles, and Newbiggin farm, Cambo. New sewerage schemes have been

adopted for Pegswood Colliery, and Hebron village. Improvements in drainage at Longhurst, Low Quay, Ulgham village, Ulgham Cockles, Ferney Beds, Frillington, Hedley Wood, Mitford, and Coag View.

Requirements. This district is still on the list of those authorities who have systematically neglected to frame bye-laws; they are urgently required. The annual report of the Medical Officer should be printed. An isolation hospital and disinfectors are needed, and the conversion of many huge, badly constructed, uncovered privy ashpits, into more sanitary conveniences, with much more frequent, and much more thorough, emptying and cleansing.

NORHAM AND ISLANDSHIRE.

Medical Officer of Health—J. PAXTON, Jun., L.R.C.P., L.R.C.S.

Area 46,066 acres; Estimated population 1897 6,366; Birth rate 24·82; Death rate 16·18; Zymotic death rate 0·15; Infant mortality rate (per 1,000 births) 152; Phthisis death rate 1·25; Death rate from respiratory diseases 2·04.

The death rate is 1·58 higher than it was in 1896, and the birth rate is also slightly higher. Of the total number of deaths (103) 24 were of infants below one year, and 37 of persons over 65 years of age; this represents 60 per cent. of the whole number of deaths. There were only two deaths from infectious diseases. During the year, 158 births were registered, being four more than in 1896. 25 cases of infectious diseases were notified, classified as follows:—Scarlatina 17; typhoid fever 1; membranous croup 2; erysipelas 5. This compares very favourably with the year 1896, when 35 cases were notified.

An epidemic of measles necessitated school closure at Cornhill, Norham, Ord, and Scremerston.

This sanitary district is divided by the Medical Officer of Health into two localities—Norham and Islandshire, and Ord. The following table shows the death rates from different causes in each of the sub-divisions:—

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1000 births.
Norham and Islandshire	5,814	98	16·85	0·17	2·06	1·20	155
Ord	552	5	9·05	—	1·81	1·81	100

Improvements. Improved water supplies have been provided for the following places:—Billylaw, Felkington, and Cheswick Buildings. New cast iron pipes have been laid between the Bow Well Spring and the old public fountain at Norham. A new branch sewer has been laid at Cornhill Village. A new concrete surface channel has been constructed at South Berrington, and at Holy Island where it was suspected that the water supply at the public well was contaminated by sewage, the sewer has been diverted and the out-fall extended to the sea beach. A new sewer has also been laid at Horncliffe. At Goswick station and at Norham improvements in the sewerage have been effected.

Requirements. The water supply at Buckton is unsatisfactory. An isolation hospital and disinfectors are required for this sanitary district. The report of the Medical Officer should be printed.

ROTHBURY.

Medical Officer of Health—F. BARROW, M.R.C.S., L.S.A.

Area 166,959 acres ; Estimated population, 1897, 4,790 ; Birth rate 23·38 ; Death rate 11·69 ; Zymotic death rate 0·62 ; Infant mortality rate (per 1,000 births) 125 ; Phthisis death rate 1·04 ; Death rate from respiratory diseases 1·67.

The birth rate is 3·91 per 1,000 births lower than it was in 1896. The general death rate shows a decrease of 5·18 from that of 1896, when it was recorded at 16·87. The zymotic death rate is the same as last year. The number of deaths from zymotic diseases was 3, of which 2 were caused by diphtheria, and 1 by whooping cough. Of the total number of deaths (56), 14 were under 1 year, and 18 were 65 and upwards. The infant mortality rate is very much higher than in 1896, when it was 76·33.

This district is divided by the Medical Officer of Health into 10 localities, each of which is separately dealt with in the annual report. The table appended presents many points of interest as regards the several sub-divisions. There is also appended to the Medical Officer's report a resumé of some of the work accomplished by the Sanitary Inspector, from which it appears that 150 notices have been served, and nearly 100 nuisances of various kinds have been abated.

Locality.	Population.	Number of deaths.	Death rate.	Zymotic death rate.	Respiratory death rate.	Phthisis death rate.	Infant mortality rate per 1000 births.
Alnham	200	2	10·00	—	—	—	—
Alwinton	1,000	7	7·00	—	1·00	5·00	105·26
Brinkburn	160	1	6·02	—	—	—	—
Cambo (part)	180	2	11·11	—	—	—	—
Elsdon	330	4	12·11	—	3·03	—	125
Longframlington	500	5	10·00	—	2·00	2·00	62·5
Longhorsley (part)	100	2	20·00	—	—	—	—
Netherwitton (part) ..	170	4	23·52	5·88	—	—	285·71
Rothbury	1,300	19	14·61	1·53	3·07	1·53	68·96
Whittingham	850	10	11·76	—	1·17	1·17	315·7

Improvements. The water pipes have been extended, the supply and pressure to the village of Thropton is more than doubled, and a storage tank, capable of more than 2 days supply, has been provided. The water supply has also been improved at Greenleighton. Improvements in drainage, &c., have been carried out at Holystone and Long Framlington.

Requirements. A depôt for refuse for the Thropton district; sewerage scheme for Netherton, abatement of the serious nuisance caused by crude sewage from Glanton, (Alnwick rural district) flowing down an open ditch, by the side of the high road, leading from Glanton to Whittingham, and then through the gardens of St. Mary's Vicarage; abatement of nuisance caused by sewage flowing into a roadside ditch at Pauperhaugh; better sanitary arrangements are required at Whitton, Alwinton, Barron Mill, Hollerton Cottages, and Woodhall Cottage, Harbottle Schoolhouse, Jackson's Style, Cockshott and Wingate; the framing of bye-laws; the adoption of the Infectious Diseases Notification Act; an isolation hospital and disinfectory.

TYNEMOUTH No. 1.

Medical Officer of Health—A. S. TAYLOR, L.R.C.P., L.R.C.S., L.M. L.F.P.S.

Area 7965 acres ; Estimated population 1897 8,720 ; Birth rate 32·11 ; Death rate 21·90 ; Zymotic death rate 3·21 ; Infant mortality rate (per 1,000 births) 167·85 ; Phthisis death rate 2·17 ; Death rate from respiratory diseases 2·17.

During the year Holywell has been severed from this district, to form part of the New Urban District of Earsdon. This severance took place at the end of March, and reduced the estimated population of the No. 1 division of the Tynemouth rural district from 12,006 to 8,720. There were 280 births, and 191 deaths, registered during 1897. Of the latter, 47 were of children under one year, and 36 were of persons 65 years and upwards, while 7 were caused by injuries. The number of deaths from zymotic diseases was 28, being classified as follows :—Scarlatina 2, diphtheria 5, enteric or typhoid fever 8, measles 7, whooping cough 4, diarrhœa 2.

There were 92 cases of scarlatina, and 32 of enteric fever notified during 7 .

NOTE.—In the above calculations, Holywell, which for three months was in this district, has been, for statistical purposes, added to the Earsdon Urban District, as if the latter had been formed at the commencement of the year.

The Medical Officer adopts the very admirable plan, of dividing his district, for statistical purposes, into seven localities, with the estimated population of each ; and also the number of deaths, causes, age period at which such deaths occurred, and birth rates, death rates (both general and from particular causes, and at different age periods) for each sub-division of the sanitary district. The information given in tables A and B, is also assigned to the different subdivisions of the district. A table is added, from which can be seen at a glance, the number and nature of all cases notified from each locality, and the months during which such notifications were received. There is also a table giving particulars of all those deaths, generally included under the head of “other causes,” and in this, also, the number occurring in each locality is indicated. These calculations entail a considerable amount of time and trouble, but they materially add to the value of the report. As a result of all the above-mentioned information, it has been possible to draw up the following table, which presents many points of interest :—

Locality.	Population.	Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant mortality rate per 1000 births.
Seaton Delaval ...	4582	101	22·04	3·27	1·30	2·83	176·05
Hartley ...	1328	26	19·57	2·25	0·75	3·01	68·96
Horton ...	2349	51	27·71	3·40	3·40	0·85	280·70
Hartford (West) ...	81	—	—	—	—	—	Nil.
Hartford (East) ...	294	12	40·81	6·80	10·20	—	101·01
Bebside ...	85	1	11·77	—	11·77	—	—

Improvements. At Horton, where diphtheria broke out, the water has been analysed and found in a very unsatisfactory condition ; the use of this water has been stopped, and the privy and ashpit, have been moved to a suitable distance from the house. A choked drain at Hartley has been rectified. The water at New Hartley was analysed and found to be contaminated. This supply was immediately cut off, and a more wholesome one obtained from the colliery.

Requirements. An isolation hospital and disinfecter. The water pipes at Astley Terrace should be so altered as to prevent any accumulation at the dead end of the pipes ; this water has been analysed and found polluted. There are thousands of the worst type of privy-ashpits in this district, which, being a constant danger to health, urgently demand the attention of the sanitary authority. The water supply in many parts is anything but satisfactory, and requires careful investigation as to its condition and surroundings.

TYNEMOUTH No. 2.

Medical Officer of Health, P. ALEXANDER, L.R.C.P., L.R.C.S., L.M.

Area in acres 7,184; Estimated population 1897, 10,654; Birth rate 32·19; Death rate 15·48; Zymotic death rate 2·72; Infant mortality rate (per 1000 births) 169·09; Phthisis death rate 1·68; Death rate from respiratory diseases 3·47.

The area of this division for the first three months of 1897 was the same as in the year 1896, viz:—10,519 acres, and the population for the same period was 15,943; but owing to the withdrawal of the townships of Earsdon, Backworth, and Murton (from the No. 1 Division of the Tynemouth Rural District), to form with Holywell township from (No. 2 Division) the Urban District of Earsdon, the area has reduced to 7,148 acres, and the population (estimated) to 10,654.

In the above calculations (birth rate, death rate, &c.), Earsdon, Backworth, and Murton, which for the first quarter of the year formed part of this district, have been taken out, and added to the new Urban District of Earsdon, as if the latter had been formed at the commencement of the year.

The Medical Officer of Health adopts the very admirable plan of dividing his district, for statistical purposes, into three localities, with the estimated population of each, and also the number of births, deaths, causes of death, and age periods at which such deaths occurred, in each sub-division of the sanitary district. The information given in tables A and B is also assigned to the different localities. A table is added, from which can be seen at a glance, the number and nature of all cases notified from each locality, and the months during which such notifications were received. These calculations entail a considerable amount of time and trouble, but they materially add to the value of the report.

Locality.	Population.	Deaths.	Death rate.	Zymotic Death rate.	Respiratory Death rate.	Phthisis Death rate.	Infant mortality per 1000 births.
Northern portion of Longbenton ...	7069	126	17·82	3·11	4·38	1·98	189·18
Burradon Township, Earsdon ...	1416	14	9·89	1·41	1·41	1·41	58·82
Willington Rosehill Township, Wallsend	2169	25	11·52	2·30	1·84	0·92	140·00

Improvements.—The defective drains at Forest Hall, which were supposed to have been the cause of diphtheria, have been rectified. The ashpits in most parts of the district have been cleansed more regularly, and at perhaps shorter intervals.

Requirements.—A better water supply for Willington High Row, the present one being scanty and derived from wells and surface field drains. The abolition, or reconstruction of many privy ashpits, which at present combine every insanitary feature. Properly constructed receptacles for manure, are required at many farmsteads. An isolation hospital and disinfectors are needed for this district. Abatement of the nuisance caused daily, in the Willington Quay and Wallsend districts, by crude, partially strained sewage, from Willington parish, being poured into Willington Cut, close to the bridge, on the main road between Wallsend and North Shields. When first this nuisance was reported by the County Medical Officer, a large volume of sewage was poured into this cut, from the Urban districts of Wallsend and Willington Quay, as well as from Willington Parish, in the Tynemouth Rural District. A new sewer has been laid by each of the two

first-named authorities (at an aggregate cost of nearly £5,000), receiving between them, all the sewage which was formerly discharged into the cut, from the Wallsend and Willington Quay districts. There is, however, but little improvement as regards the polluted condition of this watercourse, as the sewage from Willington Parish (Rosehill and Willington stables) is still discharged (after passing through settling tanks) into the cut at its very commencement, close to the Willington bridge. A considerable deposit of solids from this sewage, takes place during each flow tide, and is not removed by the ebb tide. During high tides, the water and sewage matter is forced up the Burn closes burn, (which also flows into the cut near the bridge) for several yards, and leaves here also a thick, black, stinking deposit, close to a public footpath, and within a few yards of a public highway. Building operations have been carried on to such an extent at Rosehill, that probably there is as much sewage poured into this upper portion of the cut now, as was the case three or four years ago, before the new sewers mentioned above were laid, by the Willington Quay and Wallsend District Councils. There are over 360 tenements in Willington Parish, discharging their sewage into the settling tanks of the Tynemouth Rural District Council. The population of these tenements probably amounts to about 1,800. Thus all the costly attempts made by the Wallsend and Willington Quay authorities, to improve the condition of this tidal cut, have been rendered abortive, by the Tynemouth Rural District Council continuing—and, to a greater extent than ever—to pollute it. The filthy condition of Willington cut has long been a serious nuisance to all persons passing over the Willington bridge, to the occupiers of cottages near, to Messrs. Hood, Haggie, & Co.'s workpeople (some hundreds in number), and to the inhabitants of Keelman's Row. The County Medical Officer describes "the disgraceful condition of this cut as exceeding anything he has met with in this or any other county; the banks at low-water being covered (in some places for two or three yards on either side) by a thick, black, stinking deposit, especially offensive during the summer, when it is liable to be exposed to the sun's rays for several hours each day." It is reported that the Willington Quay Urban District Council offered to take all the sewage from Willington Parish, into their new sewer, for an annual payment of £20. If this be correct, it does appear inexplicable, that the Tynemouth Rural District Council, should be content to foul Willington cut continuously, and to an increasing extent, causing a distinct nuisance to hundreds of people passing along the high road, and to hundreds more who either work or reside in the immediate neighbourhood.

TABLE OF VITAL STATISTICS, &c., 1897.

[illegible]

* During the first three months of 1997 this district included Holywell, which, however, was severed to form the New Earsdon Urban District. The Holywell statistics for these three months have been deducted and added to the nine months in the Earsdon district, and so making a complete year.

† During the first three months of 1897 this district included Murton, Backworth, and Earsdon. These, however, were severed to form—with Holywell—the New Earsdon Urban District. The statistics of these divisions for the first three months of 1897 have been deducted and added to the nine months in the Earsdon district, and so making a complete year.

a 18.08, after deducting 17 deaths in public institutions.
b 16.20, after deducting 13 deaths in public institutions.

c 1924, after deducting 6 deaths of non-residents.

d 17.93, after deducting 11 deaths of non-residents

e 12.61, after deducting 56 deaths in public institutions.

f 19.66, after deducting 9 deaths in public institutions.

g 18'91, after deducting 12 persons not belonging to the district.

h 15.83, after deducting 3 deaths from injuries and one non-resident.

i 10.00, after deducting 5 deaths from injuries.

j 18.06, after deducting 19 deaths at the county asylum.

k 16.64, after deducting 30 deaths in city hospital.

1 1.17, after deducting 26 deaths in city hospital.

m 156.57, after deducting 2 deaths in city hospital.

n 12.43, after deducting 3 deaths of non-residents.

o 8.1, after deducting 12 deaths of non-residents.

p Two-tents at Belford.

p Two-tents at Bedford.

